Plate One: With a mountainous backdrop of iridescent red & yellow, a fire tornado approaches Canberra. The 2003 fire tornado killed four & destroyed 491 houses. After being told they were safe & to remain in their homes, horrified residents witnessed winds of 200km/h, temperatures up to 1,100°C, exploding houses, fire rivers & hurling roofs. Over 100 people were rescued by chance rather than strategies of emergency managers. Mounting questions of liability led to coronial recommendations for criminal investigations of nine bureaucrats. In its defence, the ACT government spent $250,000 to accuse the coroner of bias & exceeding her jurisdiction. The bias charges failed & the coroner continued her inquiry one year later.

ABSTRACT

Black/white/male/female struggles over knowledge correctness and who is brave are examined inductively in the field of bushfires. The paradoxes of a white male icon are linked to contradictions in gender theories in disaster. In mainstream literature, assumptions of innate white male superiority in bravery justify white women's diminution and white male domination. In feminist theory, women's diminution is the problem and their bravery for struggling against hegemony applauded. Philosophies of bravery are explored in 104 semi-structured interviews and 12 months' fieldwork as a volunteer bushfirefighter. There is great variety in the ways volunteers cope with bushfires. However, evidence of white male hegemony emerges when volunteers complain of state and territory indifference to preventing property and environmental damage and injury and death. Evidence is examined that Indigenous Australians once managed bushfires better than a sprawl of bureaucracy. Bushfire service claims that Aborigines knew nothing about hazard reductions are contradicted. This debate over bushfire management leads to the discovery of a third epistemology breaking with claims of white male iconic bravery and bureaucratic mastery. To generalise about the *habitus* of claims to knowledge and bravery, I analyse *Newcastle Herald* articles from 1881-1981. Three competing knowledge fields and their associated struggles are examined; Indigenous Australians and white womens' emancipatory struggles confront data on bushfirefighting. Bushfires emerge as a serious problem, a bureaucratic power base and a white male icon from the 1920s.

Plate Two: Fed by high fuel loads, flames engulf treetops in a firestorm. Aerial water bombing & fire truck hoses are of little use in fires of this intensity. Only a weather change or adequate fuel reduction will make such fires extinguishable (photograph courtesy of Kurt Lance).

PROLOGUE

Based on interviews, feminine bravery introduces the area of bushfirefighting and the 1993/4 fires. In a midnight backburn, rural brigades with a high percentage of women leaders defy paid hierarchy orders to save a small settlement. Firefighting women leaders' egalitarian status and firefighting experiences are described…

0.1 A Snapshot of Female Bushfirefighting Bravery in 1994, the Cessnock Region, New South Wales…

In tall forest with smouldering scrub on either side, the red fire truck bumped along a ridge. Its crew's brows dripped, dampness spreading in cooling patches under overalls, trickling over boots into pools on the floor. They were in great danger with temperatures of 40°C to 50°C on a remote national park firetrail. With an ever-fiercer wind and rising temperatures, their worst fears began. The fire "crowned" or leapt from the undergrowth to the crowns of trees. The change from low intensity burn to wildfire marked a sharp rise in temperature and danger. Fire truck driver Mike Grainger had seen similar fires in Adelaide and told his captain he did not want to go down into the crowning valley to defend an empty house… an opinion she shared wholeheartedly. Thirty-year-old medical student Captain Penny Sutherland talked on the radio to her distant operation leader.

> Yep, we're making slow progress because the trail has been on fire everywhere, and we've had so many halts for wildfire we'll reach the end of our shift before we get to the house... have to head back. Over. (There is a loud tearing creak. A burning ironbark fell behind them with a bomb-like crash, blocking escape). Shit!

It was about three in the afternoon, but despite the flames, it was dark, black smoke masking the blue of the summer's day. The fire roared. "I'm still not reading you Pen. I can hear your voice, but can't understand what you're saying", the voice crackled faintly.

Captain Sutherland replied cheerfully, with all the courage of youth and its notions of invincibility.

> A huge tree has fallen behind us. I think the bush should burn itself out in a few hours and be easier to get through. By the time we get

rid of the tree it will be time to head back. No damage to the truck. Do you read me? Over.

Fire control could no longer hear her; the fire had charged the air's ions, blocking radio waves out. Male voices distortedly screamed "GET OUT! GET OUT!!" from her transmitter. Later, Penny learned the screams were from a crew almost taken by a burning grove of ti-trees, which fire races through with deadly speed. On Penny's ridge, the wind changed to a southerly and flames from the valley below grew closer. She gave the order to turn around. Mike Grainger found a clearing and made a U-turn. Silently, three of her four-man crew doused their heads with water, and, at the sight of the seven metre fallen gum, paused to brace themselves before stepping into the heat. Androgynous in goggles and a wet bandanna around her neck, Penny's beanpole figure joined them. They followed her orders doggedly. With speedy deliberation they extinguished the log with their hoses, chainsawed it into pieces and kicked it off the trail with steel capped boots. The truck continued along the rough track, glowing reds and oranges lighting the strange darkness.

It was a slow drive with many stops. Progress could only be made once fire burnt around the trail. This is known as staying in the black and a safety measure when wildfires are a threat. The swirling chaos of a firestorm makes its own weather and can turn on crews. Fuel loads were high and there was the chance of extreme phenomena such as lightning, fireballs and fire rivers. Burnt ground offers a greater chance of survival because its reduced fuel load reduces fire intensity to lower the chances of incineration from flames that can reach 1100ºC. Skin and fat can burn and liquefy, to drip from limbs. Hair can turn to cinders and flesh calcify to make joint movement difficult. Sometimes wildfires leave survivors psychologically damaged. Although physically unharmed, a wheat farmer from the Orange/Dubbo region said he expected to remain on anti-depressants for the rest of his life, while a farm labourer he employed experienced such trauma he committed suicide.

The farmer blamed the trauma on a sense of treachery. Both the bushfire and national park services refused to extinguish fires at night when conditions were safe, he told me. During the day, it grew hotter, drier and windier. The fires

grew to deadly proportions. He felt deep-seated outrage over the waste of his council rates, insurance premiums and taxes funding bushfire services. As well as the psychological cost, he said he lost about $1.8million in produce and property. Unlike incident controllers managing fires in this man's region, Penny followed bushfire text procedure laid down decades earlier (see Luke & McArthur 1978, 1986). To the best of my knowledge, the rule to stay in the black when wildfires threaten has never been shown to be wrong. Penny said following long established rules brought a great sense of relief when she and her crew made it back unharmed and untraumatised. The thought of losing someone's life had been a source of anxiety, but she described being careful to appear in control. "Other than this I was not afraid because I had my men to back me up... Firefighting is just another thing to get my teeth into". Being the one to make the decisions presented no problem, as "liking decision making" was one reason she gave for becoming a captain. She said she was happy to listen to the men's ideas, particularly for knowledge that would optimise their chances. But in the end the final say was hers, and, as she explained in a commanding voice, "then, *they had better bloody well do it!"* She was happy to take her crew's advice when it was well informed she assured me, but also relied on her own detailed knowledge of bushfire behaviour from training, texts and manuals (see Bush Fire Council of NSW 1986, Bush Fire Council of NSW 1986a, Bush Fire Council of NSW 1986b & Luke & MacArthur 1978, 1986).

Captain Sutherland related this incident to me several months later, as a positive experience where she gained a sense of bonding with her men on their first mission together. The escape "from dead man's land" as wildfires are known brought her local fame. The region's Fire Control Officer introduced her with pride after I asked to interview bushfirefighting women for a PhD on bushfires and bravery. A bushfire service fire control officer recommended the Cessnock region for my research because of its high proportion of women leaders and firefighters. The region had performed well in 1993/4 fires. Penny's survival strategies in the wildfire and her part in a midnight backburn met bushfire science textbook criteria for excellence (see Luke & McArthur 1978, 1986: 96-9… in a book Penny described as her bible). This literature describes backburns as a last resort against fire and safest done at night, when it is cool

and dewy and an inversion layer prevents flames being drawn up into a wildfire. Penny cheerfully narrated the backburning escapade.

She was part of a group that defied orders from an Incident Management Team located in the Cessnock area under state of emergency regulations. According to Penny and a Cessnock Fire Control Officer, the act of defiance saved properties between Quartpot Creek and Wollombi Road. With their commando-like toughness to defiantly backburn at midnight in rough terrain, women from Penny's region described fighting wildfires as enjoyable… It was a taste they cultivated from fire sheds like Penny's Wiradjuri Volunteer Bush Fire Brigade. Despite the apparent chaos of bushfire, they said their training gave them a strong chance of survival, provided they did not panic and the right decisions were made. The Cessnock women often talked of gender equality. Determining this was unproblematic and had an element of the metaphysical. While their own networks were supportive, in 1996, only 11.5% of bushfirefighting volunteers were women in the Lake Macquarie region to the east. The Cessnock women generally described men as comrades rather than exploiters, although there were exceptions. Three new male recruits posed problems, according to Deputy Captain Katie Cook. They joined after the 1994 fires. Despite their initial displays of sexism, with group pressure and demonstrations of the soundness of Katie's knowledge, the new recruits began to show respect for her achievements and higher rank. Katie said she and others found the best recruits are motivated to protect their own rather than the thrill seeking of those drawn by publicity after critical incidents. Katie vehemently criticised one captain who was well-known because he would not allow women into his brigade.

> (Lowering her voice) They can't stop them. And, it is, you know, such a sexist macho (with some vehemence) OPINION. And, they really believe it. And you know? (dropping her voice to a disgusted whisper) they think it's just a boys' club and that's *it.*

Attitudes like Katie's were common amongst women in Cessnock networks. According to these firefighting women, it was a necessity that marriage too is thought egalitarian or divorce resulted. Supportive partners were essential. One

exception and the oldest, Anne O'Dwyer, a 58-year-old veteran firefighter of 30 years from another region to the north, had an arrangement with her husband that they were both not on a fireground together. Just over half of the Cessnock women were married while the other half had partners at some time. Of the married women, three said they had egalitarian marriages, but from their accounts, they seemed to dominate decision making. Deputy Captain Katie Cook and fire truck driver Daphne Jones both said they made decisions and then told their husbands what they had decided, Daphne adding *sotto voce "he makes his decisions too"*. According to Katie, joint decision-making was unusual in her marriage. If she asked her husband for a decision, he usually told her to do what she thought. Mary Anne Turner said she and her husband made decisions jointly, but from her accounts, it appeared she had a lot of control and "held the purse strings". Other women described marriages where they made decisions jointly. Two others were in the throes of divorce. One of these marital breakdowns was over domestic duties and was precipitated by the fires. Evidently, the husband had opposed his wife's firefighting.

Other women from the Salvation Army and volunteer brigades held more stereotypic roles, as the suppliers of food and other support. They acted in a symbolic way as fighters of fire, but were equally brave. Salvation Armyist, Christine Dennis faced danger, taking provisions to the firegrounds and from a medical problem that grew worse with the stress and junk food typical of firefighting conditions. She was hospitalised after the fires as a result. Salvation Army minister Deborah Felix said she worked from early morning to late at night seven days a week organising food preparation and deliveries. She described being almost at breaking point from exhaustion towards the fires' end. These two women said they participated as part of their religious belief in "the right thing to do". They were endangered through long hours of hard work, describing tenacity and bravery in their actions, men who followed orders and a strong sense of involvement with, and commitment to the community.

While it is often difficult to isolate the origins of something as ephemeral as an idea, dotting these women's accounts were words from feminist discourse such as "macho", "boys' club", "equality" and "sexist". This style of dialogue and the

idea of overcoming discrimination also typify discourses from many feminist organisations. This inheritance may trace its origins back to liberal feminism and its classical tradition (which included the poetry of Sappho and Greek legends of Amazons) through to second and new wave feminism. However Penny and Katie were not members of an organisation making a revolt (internal or external) against sexism, as prescribed by feminists such as Susan Brownmiller (1975), Helene Cixous and Catherine Clément (1975, 86) or Naomi Wolf (1991 & 1994). Highlighting an apparent contradiction, Katie acknowledged feminism's importance in bringing improvements for women, but she laughingly said she did not think “a lot" of the movement as she saw it as "taking things too far... and full of man-haters". Penny and one other brigade member from the region voiced similar views.

Of the few who were aware of the women's liberation movement, most described it as extremist and incompatible with heterosexuality. While this is the argument of antifeminists, all of the firefighting women were strong proponents of equality. They did not voice a connection with ideas labelled as feminist to break the mould of exploitative or oppressive stereotypes. Without a catharsis in their gender identities, their concepts of femininity, which they described as beginning in childhood, developed through to adulthood to include bushfirefighting, courage and physical activity. First and second wave feminist ideas had melded with popular notions of femininity to form hybrids. As far as Brownmiller (1986) and Wolf's (1991) thesis that to attain purity in femininity, women need to revolt against patriarchy or the Beauty Myth, these firefighting women were heterosexual and plain dressers. With the exception of one, they had partners. When I spoke to them, they wore the sort of clothing suitable for the outdoor pursuits they enjoyed since early childhood. With little or no makeup, sensible shoes and comfortable, loose trousers and blouses, there was no evidence they were pitted against each other for the favours of men. With the exception of another informant, Deputy Captain Daphne Jones, they had not read feminist literature arguing women should rebel against a culture where strength and overcoming evil is seen as masculine (see Brownmiller 1975, Russell 1984 & Walker Dine 1990).

These women said, many in fact insisted, they were equal to men. For them, firefighting was the most rational activity considering their circumstances. It increased their chances of survival, and, with the brigade's club-like atmosphere, provided a social venue. There was no evidence the egalitarian culture described by the firefighting women was achieved through post modernist Julia Kristeva's (1977: 523), Hélène Cixous and Catherine Clément's (1975, 1986: 90-95) notion of a female praxis against that of the male. The firefighters did not describe being men's opposites. They said they were partners and none mentioned deconstructing mainstream linguistic practices to reveal Cixous's fallacy of the phallocentric (see 1978: 81-83). Several had not finished high school. Since girlhood, often spent doing the non-stereotypic, they said they were feminine and normal in a system where discrimination occurred. They avoided sexism or endured it if it was unavoidable. These women did not act like men or talk about occupying male space. Their activities were for both men and women, and while plain dressers, none dressed as men. In terms of feminist prescriptions for equality, these women were anomalous, as they were in one other relevant area of the literature relevant to bushfirefighting… mainstream disaster studies, where, on the rare occasions women are visible, they are portrayed as handicaps (see Finlay 1992: 1 & Enarson & Morrow 2000a).

The mainstream field of emergency response is a white man's sphere where women in the role of rescuers and governors are under represented in the literature and as emergency response personnel (see Enarson & Morrow 2000a, Robertson 1995 & Thomas 1967). However, women still manage to slip through the barriers of marginalisation to self-preserve and make major contributions to community (see Enarson & Morrow 2000b, Cox 2000, Williams 1987 & Rowbotham 1974). Within feminist literature, the Cessnock women proved emancipation's value to risk management.

0.2 An *Habitus* of Bravery

Accounting for the formidable Cessnock women, who were feminist by practice but not by name, Pierre Bourdieu's concept of *habitus* explains their contradictory philosophies and invisibility in mainstream discourse and knowledge production (see 1990: 30-1, 1993: 18-19). Bourdieu developed the

idea of *habitus* to account for social fluidity, to theorise about post-war French imperialism's influence on Algerian peasants (1979: 3-7). He criticised anthropological modernisation theories and theorists such as Max Weber who predicted a mechanistic, rationalist ascendancy over "peasant" society (1979: 3-7, 22 & 1990: 9, 13-17). These predicted that as peasants learnt from neo-European models to make more perfect decisions, their society would organise to more rational principles. Goals of maximum expected utility were thought to guide these principles. Like the idea of equality, maximum expected utility is another metaphysical idea… From it should grow social perfection, free of the mistakes and bias of considerations of power to reach the "best" decisions. Feminist prescriptions fall into the same overly structuralist mode in trying to solve the problem of women's inequality. Cixous argues individuals are creatively in charge of the construction of their social reality, describing the complex construction of masculinity and femininity and acknowledging there are men who are feminine and women who are masculine (1978: 81-3). However, she draws a line between the genders, discarding masculinity in pursuit of a hypothetical, phallocentrically untainted and pure femininity. Her perspective allows the Cessnock women their femininity, but they could only be seen to attain the prescribed purity by creating a third space, neither masculine nor unenlightedly feminine.

This prescription is more suited to the *avant-garde* and rarefied atmosphere of French intellectuals and not the *habitus* of bushfire-prone New South Wales. The Cessnock women constructed femininities to suit needs that did not apply to a French location that is different historically, socially and geographically. To solve this dilemma of exceptions to prescriptions, the model of *habitus* excludes overly static notions to express a vague and chaotic, but powerful interplay between the social actor and phenomena such as beliefs, discourse and practices. The idea of a fluid social superstructure is linked to the idea of a unique individual. An individual's intentions can be contradictory as ends often are not those intended... Practice can be laden with the contradictory... Activities can be unreasonable, selfish, illogical, well reasoned, caring, uncaring etc. Dictated by an actor's perceptions of necessity, these are, upon examination found to be social constructions. The social actor cultivates tastes

and preferences, for example for certain kinds of lifestyle, status, companions and activities (Bourdieu 1993: 62-64 & 1990: 11-17).

The Cessnock women saw firefighting as superior to other community activities, flattening their voices to indicate lack of enthusiasm for the more stereotypic bingo and mothers' clubs. Danger, dramatic events, protecting home and community, adventure and comradeship were central themes in their accounts, and necessities in their games of life. Laughter interspersed even the spectacularly dangerous. There were jokes about boredom before going onto firefields, the monotony of fried sausages and onions on bread rolls, the lack of washing and vacuuming and repetitive dreams spent at the wheel of a fire truck. The firefighters had practiced as Amazons to the point where their play was spontaneous, with the best being the most creative and ingenious interpreters of the rules. Their childhoods were described as full of outdoor pursuits such as horse riding and bicycling and most spent time in activities with both parents.

Fire truck driver Daphne Jones described a childhood on a sheep, cattle and wheat property where she mustered cattle, but where her mother's activities were more domestic. Fighting fires however was considered an honourable activity for rural women, with considerable status. While she cultivated a taste for real-life adventure, Daphne also had a wide supply of books and became an avid reader who included the adventure novel. Enid Blyton was one of the authors she remembers. Similarly, Penny Sutherland said she read avidly, listing Blyton’s The Secret Seven, the Famous Five and everything from "Huckleberry Finn through to black Beauty" and any comics she could find. While Daphne rode horses, Penny grew up in the eastern suburbs of Sydney and played tackle football, cricket, cowboys and Indians and bicycled. Penny said this "tomboyishness" was the natural consequence of a large population of boys in her neighbourhood. Daphne a self-employed businesswoman, trained to be a teacher and Penny, just under 20 years her junior, is training to be a doctor. Blyton and other adventure stories were commonly read. These Amazonian women only recollected Blyton as a writer of adventure. Salvation Army Minister, Deborah Felix, described having an authoritarian mother who

forced her to be the model child. Despite this, she said with humour, she read and reread Blyton's The Naughtiest Girl in the School series and became an accomplished cricketer.

When I asked these women about Germaine Greer, the response was most often a look of non-recognition with comments like "don't know" and "heard the name". Feminism was another grey area. Deborah Felix was hesitant to call herself a feminist because of its association with man haters. When asked if she was one if the definition excluded an anti-male stance, she agreed. Only fire-truck driver, Daphne Jones, talked enthusiastically about Greer and feminism. Nevertheless, all stated with some pride that women were in all ways equal to men in the fires. Statements such as "women can do things just as good as men", "they do as much as what the male does out there", "in our brigade it doesn't matter whether you're a man or a woman" and "the same as men" illustrate the way equality was an essential part of a moral code. They're just as good, said Captain Mary Harris, slightly ruffled I should even ask. Her area had the worst fires in the state of NSW in 1993/4, but she said she felt safe most of the time and that "keeping cool" was essential for a leader.

When asked why they chose to fight fires, at first most said they did not choose, it was something that "had to be done". With the suggestion that not many people spontaneously felt they should fight bushfires, all agreed that when they said they felt compelled, it was in fact their choice. Asking if it was proving women could fight fires brought emphatic agreement from Captain Anne O'Dwyer, veteran of 30 years and one of her female crew, Janine Moore. Captain Mary Harris (who like these two women, also had never heard of Greer) said she decided to fight the 1994 fires with the thought that if she evacuated she would be leaving the safety of her charming bushland home in others' hands. Deputy Captain Katie Cook also felt no one beside herself and her husband would be as motivated to protect her children and home. Pointing to women’s potential in an area traditionally dominated by white men, all said they viewed firefighting as the safest and most logical thing to do, despite the high dangers.

In fire-adapted and fire-prone Southeast Australia's bush, there are cycles of extreme dry heat called El Niño. There are neutral periods where rain and sunshine are more equally distributed, and, La Niña cycles of extended heavy rain. Precipitation lowers temperatures and raises humidity so that high rainfall and floods temporarily lower bushfire risk. However, cyclonic activity in the north also brings a long-term risk... high precipitation feeds high fuel loads. With every cycle of years of high rainfall, the scleroforest becomes more closely packed with suckers, thicker undergrowth and deeper humus to raise burning capacity. In Southeast Australia, it takes about 28 years to break down humus into non-inflammable soil. On warm days, vaporised oils from foliage cause a picturesque mauve/blue haze (personal communications during Basic Bush Firefighters' Course 1996). These oils are also highly flammable. High fuel loads become a hazard when temperatures reach the mid 30s and soil moisture levels drop to below two percent. After lengthy dry periods, eucalypts and ti- trees burn easily and being heavily laden with flammable oils, release large amounts of heat. Fire temperatures increase exponentially with fuel loads; the larger the fuel load, the exponentially hotter the flame and the longer it is held under tree canopies. High fuel loads, strong winds, low humidity and a strong convection column will draw fires upwards to superheat treetops into a wildfire (see Bush Fire Council of NSW 1986b: 8). Firestorms make their own weather as explosions of heat intensify wind conditions.

Wind speeds can reach around 200km/h. The roaring, swirling but patterned maelstrom looks surreal, like a motion picture's special effects. Fireballs ricochet around, sometimes fatally trapping firefighters. Looking like giant columns of smoke to distant onlookers as they travel, erratically snapping telegraph poles and hurling roofs and trees, fire tornadoes can form. There can be sheets of flame and fire rivers that can travel for 100s of metres. With intense changes in electrical charges, lightning can strike. Embers carried by strong winds have been known to carry about five kilometres from the west of Lake Macquarie to its eastern shores. Fire travelling in this way is known as spotting and can journey as far as 30 kilometres (Bush Fire Council of NSW 1986 BP/4: 3 & Luke & McArthur 1978, 1986: 102). Wildfires such as fire tornadoes can reduce houses and trees to charred rubble as if a bomb has hit,

melting aluminium signs (see Byram 1954, Graham 1955, King 1964, Morton 1970 & Luke & MacArthur 1978, 1986: 100). Only weather changes such as rain or a large patch of hazard reduction mitigate fires that have jumped the threshold from low intensity to firestorm.

> Flames generally have a temperature in the reaction zone of 1,600° C. The temperature of the combusting gas and the entrained air mixed in with the combustion products is what we see visibly as flames. The entrained air mixed in with the combustion products is what we see visibly as flames. Generally, we have measured the flame tip at around 300°C and rising to around 1,100°C, six metres below the flame tip. Temperature is unimportant, but the type of flame is - it is the way heat is released and how it is transferred to other objects that are really important. Aluminium melts when it gets to 660° C, but it takes a good flame to heat it to this point.
>
> (Phil Cheney personal communication 2004)

♦ ♦ ♦ ♦ ♦ ♦ ♦

This introduction to bushfires and women's potential in managing serious emergencies sets the scene for this thesis. It involves participant observation and informed participation in reaching a solution to wildfires. Writing submissions and newspaper articles, speaking with ministers and bureaucrats and giving media interviews become important components as competing stakeholders fiercely contest claims to knowledge. My position challenges emergency management infrastructure and practices with evidence tracing bureaucratic and political developments from the late 19th century. Crucial to this study on the *habitus* of bushfires and bravery are the ideas of an historical and geographical inheritance, an agentive cultivation of preferences, socially constructed necessities, social boundaries and often-unreflective activities. I deconstruct *laissez faire* assumptions of maximum utility guiding bureaucracies controlling bushfire mitigation. Critiqued are white male power bases that grow from the bushfire problem and white women and Indigenous Australians' diminution.

CHAPTER ONE

Why a gendered and racialised analysis of bravery is useful in risk assessment. The evidence for bravery as a guiding principle to trace boundaries between competing social spheres…

1.1 Introducing Bravery, a Most Powerful Notion

1993/4 Australian bushfires and media portrayals of bravery sparked this investigation. The findings point to a series of purported heroes as the culprits. Once, as Aborigines and later early settlers reduced undergrowth, bushfires as problems were rare and of lower intensity my many Aboriginal informants told me (see Griggs 1994: 69, Pyne 1991, Flannery 1994, Kohen 1995 & personal communications Peter Cochran 2003). Serious bushfire problems began in the 1920s with the decline of hazard reduction burning and media epics of white male bravery pitted against lurking evil. Part of the scorching summer heat of an El Niño cycle, wildfires became a site for metaphors of warriors and battle. Memories of a wildfire controlled past were lost in the hype. Bushfire's frequency, intensity and news coverage grew in jagged leaps culminating after the turn of the twentieth century. Despite the billions of dollars spent on technologies like fire trucks and helicopters, the army of volunteers find themselves powerless. In this white male sphere with its dramatic media scenes of tiny figures hosing towering, burning gum trees, my purpose is to examine the links between social phenomena and bushfires.

1.2 Exploring the Area of Bravery, Power and Status

A gendered and racialised analysis of bravery proves its uses in increasing sensitivity to data and accuracy in risk assessment. A large body of evidence justifies the notion of bravery as a guiding principle to trace boundaries between competing social spheres. Also heavily influencing my exploration is Bourdieu, Jean-Claude Chamboredon and Jean-Claude Passeron's guide to intensive scrutiny of the impact of ideas on research (1968, 1991).

> The only way to break free of the preconstruction of language, whether it is the language of the scientist or that of his subject, is to set up the dialectic, which leads to adequate constructions by methodically confronting the two systems of preconstructions.

> ... Thus the *theoretical model* is characterized by its capacity for breaking with appearances and its capacity for generalization.
>
> ... by formulating the generative and unifying principles of systems... as conscious products of a self-distancing from reality, they always bring one back to reality and make it possible to measure against reality properties whose unreality alone entitles one to extract them fully, by deduction.
>
> (Bourdieu et al 1968, 1999: 43, 54 & 55).

Exploring the unrealities and realities of notions of bravery, adversarial spheres of knowledge emerge in my literature review (one diminishing women and one problematising women's diminution). From mainstream literature, there was little analysis of bravery as it manifests as a whole, but a large body of work on its downside, the accompanying stress and trauma. For these reasons, the thesis overviews the macro social structure of bushfires and bravery using detailed microanalysis. Gender analysis is a critical component in understanding the bushfire problem's hidden agendas and the evidence for who is the problem. In their adversarial nature, two gendered spheres provide a means to break with the appearances portrayed by the other. In mainstream disaster literature, white women are almost invisible except where aspects of their personality and behaviour are highlighted as innately inferior to those of white men; women being portrayed as more prone to psychological collapse under stress and therefore lacking the prerequisite bravery to deal with critical incidents (see Palinkas, Downs, Petterson & Russell 1993, Kessler, Sonnega, Bromet, Hughes & Nelson 1995: 1048-1060 & Rosenman 2002). Feminist disaster researchers argue that femininity has a more hostile social location than masculinity (see Brownmiller 1976 & Ollenburger 2000). Facing greater hardship, by implication females require more bravery than males. Further difficulties add to those posed by contradictory claims from white male/female struggles over knowledge correctness.

My dour 12-month account of volunteer bushfirefighters will not enthuse stakeholders of beliefs in iconic bushfirefighting bravery or *laissez fair* risk management. To give depth and generalising power to the contentious findings

based on the microcosm of my fieldwork in a volunteer bushfirefighting brigade and to avoid using the same structuralist research principles critiqued here, I add studies of the brigade's community and a century of the region's newspaper archives. Competing epistemologies heighten data sensitivity to break with appearances (see Bourdieu et al 1968, 1999: 43, 54 & 55). Claims of white male heroics are examined. Archival work allows a detailed look at iconic bravery's emergence and white women's struggles against white men. From data on bushfires and Aboriginal fire stick farming in Chapter Seven emerges the need to include Indigenous Australian discourse and an exploration of the once mundane task of reducing undergrowth to reduce bushfire's intensity and risk. Analysis of Aboriginal struggles against white men presents another break with iconic appearances to heighten data sensitivity in this inductive analysis (see Bourdieu et al 1968, 1999: 43, 54 & 55).

White men's confidence in the face of the ever-heightening danger is probed. Once, bushfires were adequately managed without great musculature or technological empires of aircraft, radios and trucks. I look at ways white women and Aborigines are diminished and white men glorified. Despite Aboriginal men, women and children's traditional mastery over fire stick farming and comprising 2.8% of the Hunter region's population (see Australian Bureau of Statistics 2001: 14 & 1996a: 11-13), Aborigines are not self-disclosing as bushfirefighters in my fieldwork. Present, but vastly under represented, white women form about 11% of the region's bushfirefighting population in 1996. Women and Aborigines' emancipatory struggles precede and then accompany the growth of a white male icon and its power bases. In this investigation of the intricate battle over who is seen and not seen to be brave, meanings for bravery amongst firefighting informants also shift according to perceptual thresholds.

When asked, bushfirefighters do not explicitly acknowledge their activities as brave. Meanings shift with self-descriptions of implicit bravery in action-packed narratives. Most informants say fighting bushfires is an exciting and much anticipated activity, an "adrenaline rush", and so their worldviews do not fit the usual definitions of disaster (see Dynes, De Marchi & Pelanda 1987: 40). As a

regular leisure pursuit, firefighting is not often seen as interrupting the ordinary. Firefighters live in or near fire-prone areas and on occasions like 1993/4, disaster fits Dynes, De Marchi and Pelanda's definition as an event "in which societies or their larger subunits (e.g. communities, regions) incur physical damage and losses and/or disruption of their routine functioning" (1987: 40). Movements of ideas such as these are central to this inductive analysis of oppositional epistemologies and so rigid definitions are not sought here. Definitions and their rigidity form a guide for research design. For the purpose of describing the research boundaries, the key concept of bravery is briefly introduced and white male hegemony explored...

1.3 Bravery's White Masculine Reproduction

As a dictionary definition, bravery floats unevenly across social locations marked by time, class, skin colour and gender. In three of the most authoritative larger dictionaries, bravery and its synonyms of courage and valour appear to be gender and skin colour free. However, definitions focus on white men's historic battles. In the larger Webster's, Oxford and Macquarie dictionaries is the idea of conqueror as bravest… The early Latin derivative *valere* means to be strong, in particular in wielding a weapon. *Valor* in the Oxford is a variation after Medieval Latin, which in the 15th century, translated as value and before the 17th as power, importance or significance. After this time, valour became synonymous with courage and bravery, and, according to the Macquarie, still refers to boldness or firmness, especially in battle. With metaphors of battle, meanings of bravery cluster around white male spheres. Dictionary definitions did not mention bravery in emancipatory struggles against white male hegemony. There is no definitional reason to justify this elitist clustering other than the notion's long history as an image to amplify white male importance.

With its subtext of white male victory in war and struggles over power, this definitional bravery is paradoxical. Dictionary definitions do not describe the bravery of enduring hardship in emancipatory struggles against white males. Impervious to this irony, dictionaries depict courage and bravery as a clear-cut prerequisite for fortitude and tenacity with a pivotal meaning of struggling against hardship and disaster (see *Webster's Dictionary* 1966: 269; *The Oxford*

English Dictionary 1989a: 497-8, 1989b: 1051-2 & 1989c: 413-4 & *The Macquarie Dictionary* 1997: 499, 264 & 2337). As the changing definitions of valour illustrate, shifts in who is recognised as heroic occur according to epistemology and social location. Because of a lack of discussion of this paradox, in this research on bushfires, bravery's core meaning of fortitude during hardship is extended to include slippages in meanings so that heroic in one social location can be villainous in a competing sphere. Outside of dictionaries, contemporary academic definitions of bravery could not be found, except sketchily within emergency management, military and police studies for facing death and different degrees of risk.

Here, precedents in the recognition of bravery assess the status of medals (see Fitzsimons 1973: 81). Greer (1989: 188-90) criticised such systems of recognition in her account of bravery amongst Spitfire pilots in World II.

> Real danger provokes a real response; the human organism goes into overdrive. Noradrenaline floods the heart, giving the frightened a cocaine high, making him feel cool, detached, superhuman. And so the aces pulled off those legendary stunts... The pilots lost their cool when they were forced to climb down to the pace of ordinary life. Then they shuddered and wept in noradrenaline withdrawal. The MOs scratched their heads. These were brave men, no mistake, so why were they grey-faced and sweating, screaming in their dreams like the worst of the shirkers and yellowbellies?
>
> (Greer 1999: 188)

Greer described a form of psychological collapse that sometimes follows bravery, currently called post traumatic stress disorder (or PTSD). Spitfire pilots were far more decorated than those on the ground who, being less able to fight back, were more likely to develop PTSD. All faced disciplinary procedures if they disobeyed orders to go on, regardless of their ability to cope. Greer (1999) links hegemony to bravery and its accompanying downside of PTSD. Informed by such contradictions, my purpose here is to examine the impacts of struggles over social spheres associated with notions of bravery and the underside of bravery… psychological collapse and the cowardice accompanying it. Because

of bravery's complexities, questions arose about ways to examine slippages in meaning in the literature and data from the field.

1.4 Methodology: Different Frames of Meaning as a Guiding Principle...

Informed by the adversarial claims about males and females in the literature, I was interested in gender in bushfirefighting. Despite arguments of the advantages of generalisation (see Babbie 1989: 254 & 287-8), an ethnographic approach was chosen over an *a priori* conceptual framework informing the exploratory Cessnock survey. Lake Macquarie Fire Control had directed me to the Cessnock brigades for examples of female leadership and excellence in firefighting. Initially I had planned to use interviews alone. After 25 semi-structured interviews, questions of methodological adequacy arose. With evidence of many conflicts, tensions and hidden agendas it seemed naïve to take the data at face value. The snapshot of Cessnock women was anomalous in both feminist and mainstream literature and unexpected. As a sample group recommended by the bushfire service, these women were well known for their firefighting excellence and leadership skills, but were they representative of women in bushfire services? In a dissertation on firefighting foresters in the United States, Elaine Enarson (1984) found patterns in equality, with some networks more egalitarian than others. Gender boundaries disappeared in times of danger in Enarson's (1984) sample. However, in more routine activities, equality varied according to the philosophies guiding different networks. Influenced by this finding of equality's patterning, I broaden my sample from the egalitarian and competent snapshot that emerged from the Cessnock questionnaires. Even more unexpected is the sexist and far less competent snapshot emerging from 21 more interviews with my local brigade that I join for participant observation. Informants' criticisms of emergency managers reveal a system that is far too complex to rely on *a priori* methods. I would need the powers of a prophet to predict the factors to be examined through questionnaires that could give a generalisable explanation of the bushfire problem.

Prompted by too many unanswered questions emerging from questionnaire data, the research sprouts new dimensions and moves from a deductive to an inductive design. Ideas on inductive methodology from the social sciences (see

Bourdieu, Chamboredon & Passeron 1968, 1991 & Glaser & Strauss 1967) and complex systems analysis (see Mandelbrot 1977 & Ormerod 1988) influence this change. Ethnography and grounded theory tend to be more qualitative, but are guided by the same principles as the more mathematical complex systems analysis. These methodological theories emphasise the inductive principle of looking at a system for patterns and linkages to reach an explanation. The qualitative and quantitative are developed here as two sides of a research coin. Rather than presupposed deductive frameworks, methods are guided by questions that rise from knowledge gaps, assumptions, anomalies and contradictions. These methods provide analytic depth to break with appearances. The new design yields data describing a vast bureaucratic sprawl, competing knowledge fields with committees, legislation, government policy and scientifically assessed information on bushfire mitigation. There was also the altogether unexpected… the paradox of ever-worsening bushfires and volunteer bushfirefighters and landholders in fear of their lives. I use contextualisation and participant observation to examine the correctness of contradictory theories from sharply divided black/white/male/female knowledge fields. I probe the problem's social and historic influences. After the 46 interviews with Cessnock and my local brigade, inductive research design guides interviews and information sharing with a broad network of people (58 in number). The inductive sample of informants comes from as far afield as Dubbo in western NSW, the north NSW coast, the Victorian highlands and NSW's southern highlands. There are tenacious fire captains and their deputies such as Ralph Barraclough, Peter Cannon, Peter Smith, Brian Williams and octogenarian Kurt Lance (AM), who in Chapter Seven are undaunted by a long series of snubs from officials in their push for a sustainable bushfire solution. There are Aboriginal elders such as Morris Walker, Borlung McGovern and "Grandpa" Bob Wirra who find the problem created in a powerful white man's sphere unsurprising. Informants such as these Aboriginal elders and firefighting leaders did not want their identities concealed. "No. I stand behind my words," said retired Deputy Captain Kurt Lance. This was a typical reply to my suggestion of anonymity from members of the network that formed in outrage over bushfire mismanagement. To meet university rules for confidentiality 17 network members sign consent forms to

use their names. To test the reality behind competing claims over damage to bushland, and at the kind invitation of the Cochran family, I inspect a small section of Kosciuszko National Park on horseback. I ride for a day and a half across vast tracts of dead and unregenerating alpine ash, listening to stories of how early settlers learnt from Aborigines to mitigate such disasters. Members of this outraged bushfire network supply me with reams of information. A disquietening pattern of emergency managers' indifference to preventing death, injury and property damage emerges from their accounts. In this bizarre case of a struggle to solve the bushfire problem, others are less forthcoming and obfuscate steps to gather knowledge and reach solutions.

In the main refusing to discuss the problem, other powerful white men speak through official statements in the media, legislation and policy statements. Questions arise about how lucrative the problem has become; a sprawl of bureaucracy and related power bases receive $100s of millions each year (see Griggs 1994: 23, 69 & NSW Rural Fire Service 2002: 42-6 &48-50). As the examination of the problem moves to the higher echelons of government, white women and Aborigines all but disappear. NSW government ministers and NSW Rural Fire Service Commissioner Phil Koperberg will not to talk to me about my findings or give reasons for their refusal to use a large body of scientifically assessed information to solve the problem. There are difficulties too, at the lower echelons of the bushfirefighting hierarchy. In my fieldwork in a working-class volunteer bushfire brigade, many refuse to participate in semi-structured interviews. As I witness bungling such as the burning of fire hoses and men smelling of drink at the wheel of fire trucks, my welcome diminishes. The end of my 12 months' fieldwork as a volunteer bushfirefighter is heralded by a culmination in hostility and a decapitated white hen in my front yard. Inductive analysis of this complex and fluid problem links bravery to the anti-social.

Excluded at the level of methodological logic, essentialist definitions and philosophies are included in the area of investigation itself… the *habitus* of meanings of bravery and Australian bushfires. It is this thesis's contention that keeping meanings open provides less bias and greater analytic depth than approaching the problem with presupposed definitions. As a general research

principle, collecting data according to set definitions typifies survey methods (see de Vaus 1990: 19, Babbie 1989: 95 & Bourdieu 1990: 16). Keeping concepts open is commonly advocated by practitioners of ethnography and of the sociology of knowledge (see Glaser & Strauss 1967: 32, 34-5 & 36, Bourdieu 1990: 40, Bachelard 1991: 87-9 & Kaplan 1964: 91-3). The avoidance of presupposition is shown to be imperative in this research, because it explores a problematic that was in the main unknown until the fieldwork and contextual analysis. Little was known about the unique question of linkages between notions of bravery and the Southeast Australian bushfire problem. The emergent themes from the literature review fall into two adversarial clusters. With the next chapter's epistemological polarity and lack of explicit findings on bravery, a semi-structured questionnaire informed by oppositional claims to knowledge lacks the data sensitivity to fully explain the bushfire problematic. A wide variety of research has been done on various aspects of women in disaster across time and social structure. Claiming any one from this bricolage of mainstream and feminist work as a conceptual framework would encumber my aims of analysing and theorising a unique problem. As facts are contentious, surveys' purported generalising power would be flawed by a lack of validity due to the artificiality of question formats (see Babbie 1989: 254-5 & de Vaus 1990: 55-9). There is therefore no reason to suppose presupposition's use as a guiding methodological principle.

1.5 The Inductive Deductive Debate

Keeping terms speculative to guide research with open-ended questions is a form of inductive method... so named because of the overarching principle of inducing findings from the data (see Glaser & Strauss 1967: 29 & Burgess 1989: 32). By contrast, the deductive research model is guided by *a priori* principles, which, in being guided by presupposition, can encumber the emergence of the unexpected (see Chapter Two on PTSD theories' problems with statistical rules for validity, reliability and generalisability). The only way the unprophesised can manifest itself in research findings, is if, in analysing interviews, it is somehow picked up in the form of "open coding" (see Malinowski 1922 & Bourdieu 1979 for inductive research investigating the flaws in theory initiated and driven by hypothetical stances; see Strauss & Corbin

1990: 61-72 on open coding procedure). Allan Kellehear, a rare exponent of deductive design in qualitative methods, acknowledges some of the difficulties in taking a theoretical stance at the outset to produce theory, "*discussion* - attempts to explain the findings... How right were we after all? How wrong were we? Where did we go wrong? How complete is our explanation..." (1993: 19-20). Kellehear's method finds gaps in knowledge in the literature review and uses these to formulate hypotheses to be tested (see 1993: 17-18). Reconciling the final explanation to hypothetical expectations can encumber analysis (Glaser & Strauss 1967: 37). Compare this with the idea of finding answers after data emerges as relevant.

1.6 A Strategy to Generate a Theory of Essentialised Meanings and Epistemologies

Advocates of the inductive approach include writers of texts on: ethnography, participant observation and grounded theory such as Barney Glaser and Anselm Strauss (see 1967: 3-6, 32-39, 149-150), Robert Burgess (see 1989: 34-6), Bourdieu (see 1987: 39-41, 47-8 & 129) and Earl Babbie (see 1989: 261-264). It is no different to the principles of “deduction” of Bourdieu et al (1968, 1991: 55) and that Sir Arthur Conan Doyle’s Sherlock Holmes described in the 1890s.

> I’ve been thinking it over, Mr. Holmes… I can assure you, however, that the relations between Miss Dunbar and me don’t really touch this case.
>
> That is for me to decide, is it not?
>
> Yes, I guess that is so. You’re like a surgeon who wants every symptom before he gives his diagnosis.
>
> Exactly. That expresses it. And it is only a patient who has an object in deceiving his surgeon who would conceal the facts of his case.
>
> (Doyle 1927, 1980: 142)

Such a stance "lends itself to generation of theory" (see Glaser & Strauss 1967: 152). To sidestep dilemmas of evidence from intensely divided sources, the only use of a conceptual framework is a methodological strategy to test for accuracy by checking data against theory for correctness. In some cases, as is common in ethnographies and participant observation, the correctness of assertions cannot be entirely verified, or, disproved (see Babbie 1989: 270-1).

Fluidity of interpretations does not mean key ideas are meaningless. Important in this analysis is the way ideas form clusters of meanings and impacts. This contrasts with the deductive model's taking ideas from the researcher's *habitus* to a conceptual framework.

Practitioners such as David de Vaus (see 1990: 19-20) and Babbie (see 1983: 129-131, 137-139, 152 & 159) take the use of presupposition to an extreme in what is termed operationalising concepts. Babbie (1983:129) defined this as: “the refinement and specification of abstract concepts, and ... development of specific research procedures (operations) that will result in empirical observations representing those concepts in the real world”. Deductive principles guide most mainstream disaster literature with its emphasis on the use of assumption to calculate risk (see Palinkas, Downs & Russell 1993, Anderson & Geronio 1994 & Bromet, Parkinson, Schulberg, Dunn, Shore, Tatum & Wollmer 1986). Policy and legislation in the NSW Rural Fire Service reflects the impact of such *laissez faire* principles that have been long discarded in the military and police. The impact and correctness of these *a priori* conceptual frameworks are examined inductively in relevant literature and bushfire emergency response.

To gain a final, as close as possible map of patterns and linkages, participant observation informed by a literature review proves more useful to set up conceptually than a predetermined system based on questionnaires based on presupposition (see Bourdieu 1990: 40-41, Glaser & Corbin 1998: 22-23, Burgess 1989: 179-80 & Glaser & Strauss 1967: 36-37, 40-41). Questions are asked of informants as knowledge gaps, contradictions, bias, assumptions or anomalies emerged in the data. Informants are scattered far a field, so times are organised to discuss a subject by phone or via email. Sometimes, as in the case of my horse trek through dead Alpine Ash, I visit in person. Data mounts to show preventable dangers justify my outraged bushfirefighting network’s anger. An ever-mounting database shows emergency managers’ incompetence and indifference to the performance of their statutory duties. Bound by ethical responsibility as a researcher and a citizen, I become a part of the outraged

bushfire network as espoused in ethnographic texts (see Malinowski1922, 1992: 3-25 & Burgess 1989).

My file of interview notes bulges as a system of dangerous emergency management emerges in Southeast Australia. Many outraged informants are stressed and others traumatised by unnecessary risks. Some face economic ruin. I repay them for their time and effort with my experience as a former journalist and send out press releases about their plight. The resultant publicity alerts the public about indifference to scientifically assessed knowledge bases in bushfire services' own libraries and training manuals. This subverted knowledge could save lives, prevent injuries and protect property and the environment. When a particularly serious news scandal broke, publicity appeared weekly as more information emerged. One informant appeared on the *Sunday Show*, others made front-page news in *The Sydney Morning Herald*. Rural newspapers gave a lot of coverage as did the *Age*, the Victorian *Herald-Sun* and *Weekly Times* and the *Sun-Herald* in Sydney. There were many stories on television and radio interviews. With no presuppositions of correct avenues to pursue, an unexpectedly bleak picture of emergency managers' indifference grew before public eyes.

This methodology introduces praxis into the fieldwork, by influencing change to public bushfire knowledge. The inductive principle of avoiding supposition as a research guide also prevents the invisibilisation of dangerous frameworks of meaning in the research design and their reproduction as findings. As Bourdieu et al (1968, 1991) espouse, careful scrutiny of the correctness of competing claims to knowledge carries through from the type of data gathered, to analysis and theorising. In these last two inductive research stages, I explain patterns and linkages that emerge from the data. Glaser and Strauss (1967: 45, 47 & 62-71) advocate a technique called saturation where repetition in data's patterns is sought until reaching a sense of crystallisation. These theorists argue to exclude data that does not fall into repetitious confirmation because it is insignificant.

Qualitative practitioners borrowed the quantitative tradition of rejecting the eccentric. There is good reason to re-examine the underlying logic of exclusion. Mainstream quantitative research uses calculations based on hypotheses of independent variables' effect upon dependent variables (see Pagano 1981: 132-3, 199, 425-6). Qualitative circles have long accepted that assuming one-way linkages risks accuracy (see Bourdieu et al 1968, 1991: 8-11 & Giddens 1992: 39). In linkages between variables, correlations are said by mainstream quantitative practitioners to measure relationship strength. A number of tests are used for different problems. In these, probabilities are said to prove how much chance or variables underpin correlations. When a mathematical test shows a minute probability of chance alone accounts for a correlation it is considered proven. The hypothesis is then considered correct as a generalisation for that population. Data that cannot be generalised this way are excluded as insignificant because they do not fit patterns emerging from hypothesis-filtered data. Theorists such as Benoit Mandelbrot (1977), Mitchell Feigenbaum (1978), James Yorke and Tien-Yien Li (1975: 985) proved the explanatory power of using the eccentric and treating linkages as complex and multidirectional in research guided by mathematical analysis. This work mathematically pushed back knowledge boundaries of earlier qualitative theorists. Analysts such as Bronislaw Malinowski (1922, 1992) and Bourdieu et al (1968, 1991) critiqued gender and racial assumptions, showing them so deep seated that they reproduced in fields of knowledge production.

In complex systems and other inductive forms of analysis, finding ways to incorporate the eccentric provides frameworks to plot and conceptualise at first glance dissimilar fields. Malinowski (1922, 1992) made possible a comparison of gender relations of Trobriand Islanders to the models of Freud and Parsons to show unique but generalisable patterning in social superstructures overlaying the biological necessity of procreation. The dynamics of weather patterns, electronic circuits, cotton price fluctuations, income distributions and population biology have also been shown to have similar patterns incorporating the eccentric (see Mandelbrot 1977 & Gleick 1989). Mathematical pioneers horrified European academia when they claimed they had evidence mathematics and physics were overly well-behaved metaphors for reality

(Gleick 1989: 113). Mandelbrot was one of the theory's earliest proponents. To make a living, he was forced out of France because he flouted purist mathematical convention (Gleick 1989: 90). IBM hired him to find the cause of unpredictable, but patterned noise in the links between computers. He found there was nothing wrong with the systems' linkages. Noise was part of computer networks. Earlier, in 1961, Edward Lorenz mapping weather variables found computers programmed with an equation in a feedback loop always took unique but similarly patterned paths (Lorenz 1979: 53-75 & Gleick 1989: 15-6).

Having a logical explanation, the difference in computer maps of feedback loops was not due to computer malfunction. Progressively solving the same equation and beginning with the same number, computers reach minutely, and, in the case of computer artefacts, grossly different solutions, which fed back into the loop. The maps of the solutions differed from those on other computers and, by the very same computer in another run (Mandelbrot 1977 & Gleick: 231-3). However, their patterns and linkages made it possible to recognise patterns and linkages typical of an equation. On colour computer screens, Mandelbrot sets are bizarre roundish shapes (see Gleick 1987: 227 & inserts following 114 &194). They are mapped by recording data on a screen with calculations based on taking a number, squaring it and adding the original number. This last number starts the next calculation. Mandelbrot set boundaries have paisley-shaped, cove-like formations like a land map. Within these coves are more coves and so on to infinity. These infinite numbers of divisions fit within a finite boundary. Mandelbrot named these formations fractals. As research like this mounted to explain complex systems, forecasts became increasingly accurate. Practitioners were able to beat roulette wheels in casinos and make more accurate projections of the dynamics of the weather (Gleick 1987: 248 & 19). In light of the increased accuracy and explanatory power of inductive guiding principles, and to reach a big-picture analysis of the problematic, the impact of the assumption of the eccentric or *other's* insignificance is included as an area of exploration. To solve problems with generalisation in qualitative analysis, generalisation is sought through contextualisation.

1.7 Contextualising to Generalise

In my review of ethnographic methodology, contextualisation emerged as a common means of adding explanatory power to fieldwork findings (see Burgess 1989: 218 & Kellehear 1993: 22-3). The first contextualisation occurs in the literature review with the emergence of the epistemological couple of feminist and mainstream literature. Informing my research, these polarities challenge each other; just who is the problem, women or those problematising women? The second contextualisation, a background history of Arrawonga (which precedes my description of the firefighting fieldwork) is prompted by my rather disappointing observations and semi-structured interviews with my local brigade. These are a far cry from the exciting 1993/4 media images of bravery and the impressive accounts from Cessnock. At Arrawonga, sometimes stereotypical, sometimes inarticulate and defensive, the white male-led brigade's firefighting is fraught with mishaps and conflicts. Many refuse to give interviews, are inarticulate or misinformed. More data is gathered to explain their beliefs, actions and words in a local history from interviews of eight of Arrawonga's senior and leading citizens and the archives of the *Newcastle Herald* newspaper. This local history leads to more contextualisations with the discovery of the dramatic shifts in newspaper discourse about bravery. A brief history describes accounts of heroisms in different dimensions bounded by struggles over social location and claims to knowledge correctness.

After seeing Indigenous hazard reduction in the Northern Territory as a journalist, an Aboriginal student confirmed my suspicions of its importance during a chance conversation in a Newcastle library. He told me evidence from Indigenous studies shows that under Aboriginal control, wildfires are not a problem (see Kohen 1995 & Flood 1985). With the literature surrounding Aboriginal fire stick farming, the mystery grew. If Aboriginal practices had been so much better, how did the bushfire icon of bravery and the current bushfire crisis develop? A third epistemology emerges that is pertinent to the boundaried quality of bravery and the bushfire problem. Archival newspaper accounts of Aborigines' emancipation and bondage trace their bravery. This late inclusion of Indigenous Australian issues is in no way intended to detract from the seriousness of past or current atrocities. Indigenous Australian issues provide another foil to contexualise claims about bushfires and bravery. If I

chose an *a priori* methodology, such unexpected outcomes would lead to many changes of my conceptual framework and operationalised concepts. The explanation of how I got my original hypothesis so wrong would be torturous and justifies the choice of induction over an *a priori* methodology. With its dialogue between theory, method and data in order to clarify, induction has a variety of names in research.

1.8 A Conscious Attempt to Avoid Assumption

Feminists claim their research is more reflexive in a unique way and so their material is less alienated from informants, according to Liz Stanley and Sue Wise (1990: 26). However, there is nothing singular in reflexivity theories. Malinowski (1922, 1992) in his early 20th century work on Trobriand Islanders and Karl Marx (1857-58, 1978: 236-238) in the mid 19th century wrote academic classics guided by examination of presupposition. Marx's economic determinism and prescriptions for utopia are at odds with his insights on unsubstantiated theory, but as the pioneer of critical theory in social science, he showed the flaws in Hegel's idealist rationalism where thoughts alone were considered enough to generalise (see Marx 1857-58, 1978: 236-238 & 1848, 1978: 43-86). Hegelian idealism, or primarily using reason to theorise about human social conditions, is the basis of presupposition. Given that no research on social facts may ever be entirely free of blind spots, a conscious effort is used here to monitor for presupposition's clouding of accuracy using what Bourdieu et al call epistemological vigilance (1968, 1991: 74-77). Bourdieu developed the concept from his fieldwork in Algeria in 1958 (1979: vii). In 1966, the Craft of Sociology was published as a research manual on theoretically informed, "epistemologically vigilant" empiricism. Giddens has another interpretation of the term reflexivity, where research creates society and in turn is created by it (see 1982: 14-15).

His sociological knowledge spiral portrays social change (Giddens 1992: 15-16). Knowledge spirals through society, which incorporates and remakes sociological knowledge. An homogenous, social intellect would eventuate with this conceptual model and boundaries disappear. Giddens's (1976:19-20) reflexivity includes the reflective analysis described by feminist theorists. It is a doubling back of the interplay, society being made and making the individual.

Somehow in modern times, there is the "presumption of wholesale reflexivity-which of course includes reflection upon the nature of reflection itself" (Giddens 1992: 39). Carol Lee Bacchi (1990) shows flaws in presupposing such essential sameness. She examines the issue in debates over the nature of men and women's research and equality. Liberal feminists argue women are the same as men. Others argue women have special needs to be met to participate fully as citizens. Bacchi (1990) sees society as a web of interdependent linkages. Women in this interdependency should not be assumed to be the nurturers or carers. The problem of theorising sameness/difference will disappear when humane social conditions are available to all (Bacchi 1990: 257-259). This argument can be extended to attempts to differentiate between emancipatory and non-emancipatory researchers. The emancipatory project is part of critical theory, and examines essentialist, elitist, misogynist and/or racist notions. If humane conditions exist for all, difference between emancipatory and non-emancipatory research will be an artefact. Because the question of inequality is relevant at so many levels, emancipatory research design can be diverse and multidimensional (see Fonow & Cook 1990: 71-2). Mary Fonow and Judith Cook assert that other than aiming at furthering emancipation, boundaries and rules for feminist research procedures should not be set (1990: 71-2). Traditionally, feminist research has been qualitative, originating from anthropological ethnography and sociologically, from participant observation. As so little was known about women's experiences, this early qualitative work provided the large body of data needed to produce an analytical framework for the more quantitative. According to feminist theorists, contemporary feminist research methodology should be qualitatively and/or quantitatively critical and questioning (Fonow & Cook 1990: 70-73, 80-87 & Ollenburger & Moore 1992: 59). They stress the importance of consciousness raising through the creation of liberating knowledge. To this end, this thesis on bushfirefighting examines the impact of ancient notions of bravery. Bourdieu (1998: 11) points to the consciousness raising of Karl Marx.

> Marx, who more than any theoretician exerted the *theory effect* - the properly political effect that consists in making tangible (*therein)* a "reality" that cannot entirely exist insofar as it remains unknown and unrecognised - paradoxically failed to take this effect into account in

> his own theory... One moves from class-on-paper to the "real" class only at the price of a political work of mobilization, the "real" class, if it has ever "really" existed, is nothing but the realized class.
>
> (Bourdieu 1998: 11)

I also examine theory effect's downside and its complexities. Leonardo da Vinci's diary records his struggles against what he saw as mass delusion. Despite this insight, he was bedevilled by thoughts of this delusion… of having the evil eye (see Merejkowski 1928: 363). Another example of the theory effect was at a Vauxhall factory in England in the 1960s (see Worsley 1980: 291). In Worsley's research on upward mobility in the working class, informants made no direct reference to oppression. Worsley and his research team asked if a non-inclusive management style justified industrial action. Workers told them they had no intention of striking over management's lack of consultation. A strike followed interviewers' questions about hierarchy, control and workplace treatment. In this exploratory research on firefighters, the first stage of praxis is as an informed participant asking questions about ideas' impacts.

Questions about knowledge gaps, contradictions, and assumptions guide this analysis. The answers generate the subsets of bravery, black/white/male/female boundaries and social reproduction. The unexpected often prompts me to change earlier explanations and plans for research design. An explanation is considered confirmed when the data in each subset reiterate my findings of emergent patterns and linkages and I move onto the next sample (see Glaser & Strauss 1970: 109 & 113). The dialogue between data and explanation for reconfirmation or rethinking leads to a synthesis. As further evidence of the contribution of an inductive approach guided by questions to clarify knowledge gaps, assumptions and contradictions, in the beginning, the need for a strategy of vigilance for patterns' emergence was completely unexpected. Unrealised was the value a gendered and racialised analysis would bring to solving a serious problem. Initially, I planned to examine female bravery alone.

1.9 The Research Beginnings

The significance of a filtering effect that made female bravery appear *white* was initially overlooked. Gretchen Poiner first described gendered and implicitly white bushfirefighting as part of a community study in rural New South Wales (1990: 160-5). She was part of a new theoretical direction in disaster research that questioned men and women's differentiated spheres. Using an ethnographic method, she found white women firmly located within the home, providing support, food and drink for men when they fought fires (1990:1-2). Women proved their importance when disaster's financial problems brought the need for them to work outside their farms. Some said the disaster had a positive side as this paid employment was liberating and transforming. The findings pointed to women's importance in surviving disaster by preserving a positive attitude in the face of disaster, providing food and support and later gaining outside employment to keep farms viable. This contradicted common assumptions of a female lack of contribution in mainstream disaster literature. Research surveys guided by preconceived frameworks reproduced these assumptions. In my honours thesis I further investigated the correctness of such limiting ideas (see Finlay 1992: 95-6); (implicitly white) women worked diligently and bravely in floods in North Queensland.

The women cleaned their houses until they gleamed, saying this helped a sense of recovery. They cleaned the school and other community property; self reliantly planned their own safety and cared for, rescued and supported others. Tracing knowledge gaps, contradictions and assumption in the sharply divided literature leads me to problematise bravery... a quality that symbolically claims white male pre-eminence in mainstream literature and bushfirefighting. As courage overlaps in meaning with human worth and survival, this exploration of bravery's *habitus* also contributes to knowledge of lowering bushfires' danger.

1.10 The First Questions

The project began with the idea of addressing the imbalance of fieldwork on women in disaster. The themes from my literature review inform a predominantly qualitative research design. In the Prologue, 21 semi-structured interviews showed Cessnock women were active in bushfirefighting, after the bushfirefighting service recommended I use them for my research. Other informants included Salvation Army women who worked on fire fields and in

catering. The sample was too small for generalisation and findings were further flawed by bias as bushfire service officials recommended the sample. The analysis of these early semi-structured interviews led to the realisation that interviews alone and a focus on women would unnecessarily limit explanatory value. I joined the local brigade near my home, spent 12 months in participant observation as a bushfirefighter and gave semi-structured interviews to 21 more bushfirefighters. The decision to join a brigade was influenced by the idea of dropping the distancing characteristic of mainstream disaster research.

I became part of a social system as espoused by Malinowski. In his studies of Trobriand Islanders, a theoretical problem drove data gathering and theoretical conclusions (1922, 1992: 3-25). Argonauts of the Western Pacific answered two main questions. Malinowski showed that Indigenous people are not "savages" as neo-Europeans commonly believed and proved the advantages of induction to understand foreign spheres. Anthropologists such as Malinowski have been criticised for research that was a tool of colonial domination to condescendingly view indigenous culture as a curio (see n.a. 1938a: 1). In Malinowski's defence, he was a methodological groundbreaker who also sought to correct fallacies about indigenous people and show the advantages of their way of life. To counteract racism, he portrayed the beauty of Trobriand society without going overboard on portraits of the noble savage. The circulation of the Kula was more than base material gratification through trade as was commonly thought typical of the "native". Shell necklaces and armbands accompanied more practical exchanges of goods such as canoes and foodstuffs. For Trobrianders, this held sacred, aesthetic, emotional and social significance (Frazer 1922, 1992: ix-xi). Malinowski lived as his informants lived, isolated from Europeans, learning their language and painstakingly transposing their idiosyncratic meanings into English. He also noted the way "subtle peculiarities" became normalised over time to the point of losing sight of their significance and made a point of writing them up as soon as he observed them (Malinowski 1922, 1992: 21). Influenced by the advantages induction brings to the sociologically unknown sphere of bushfires, oppositional clusters of theory guide data gathering.

My sample is based around data generated from a series of clusters from different brigades (see Bourdieu et al 1968, 1991: 39-40). Of note, is the gendering and racialising of leaders and followers. In order to gain an entree into the bushfire brigade, I approached several senior firefighters and asked for advice. This was supplied with some energy and detail. After consulting Deputy Captain Gary Avison, Fire Control Officer for Lake Macquarie and Captain Errol Mewton (retired) of the Peninsula Volunteer Bush Fire Brigade, I decided to join the Arrawonga brigade. I was told it has a number of female firefighters and members there dealt speedily with a sexual harassment case on the fire field. I also talked to Gwen Deaves who was a member of the first all-woman volunteer brigade in Australia, in Wyong, which is about 80 kilometres south of Lake Macquarie. All of these informants supplied information about bushfirefighting's social and historical features. Before describing the colourful events unfolding from my fieldwork, a literature review informs this inductive research. Using a gendered analysis, it examines competing knowledge fields in disaster and their impacts on emergency responses.

It begins in the next chapter with a small history of the long silences about women who are brave, and shows oppositional epistemologies surrounding bravery in emergency response. A small history maps long knowledge gaps about brave women. According to feminist historians, until about the 19th century, a terrible fate awaited women unprivileged by high birth who struggled for the advantages available to their male counterparts. The chapter links patriarchal assumptions about brave women to the field of disaster. Feminist researchers describe gender bias in disaster research (see Nielsen 1984, Poiner 1990, Finlay 1992 & Morrow & Enarson 2000a). Alice Fothergill's (2000) overview of the literature describes the numerous but arbitrary disadvantages of being female in disasters. Compared to men and boys, these disadvantages are tied to the social constructions of femininity rather than an essential femaleness. Women and girls hold lower status and class, are more prone to abuse triggered by stress in disasters and to the fatal danger of being housebound and untrained for disaster.

In mainstream disaster literature, women are almost invisible except where aspects of their personality and behaviour are highlighted as inferior to those of men. Recently, women and girls' so-called failings have been enlarged upon in the psychological and psychiatric branches of the mainstream. Here, implicitly, they have been found less heroic than men. Within the area of reaction to trauma, women and girls are compared to men and boys and said to suffer higher levels of stress and PTSD. Emerging from this literature is a theme of females as the problem. From feminist literature, the problem of women *as* problems emerged. Beginning with a social and historical background in Chapter Three, the question of who is the problem concretises in various research dimensions.

Chapter Three introduces Arrawonga in the Hunter Valley, NSW, and the location of my participant observation as a volunteer bushfirefighter. The story of a romanticised, pioneering white history is traced from 1881. Arrawonga moves from a tent city to a small suburb surrounded by bush. Elderly leading citizens reminisce over tales of early settlers' hardship, bravery, childhood and courtship. "We were happy then" according to Emily, one of my informants, her friends agreeing about a golden age. In one proud account, a female relative is beaten with a stick for crying loudly during childbirth. Hardship came as economic necessity drove men to dangerous work in mines and as timber cutters where they provided income that was far from women's reach in the union dominated culture. As the history advocating white patriarchy unfolds, Aborigines are never mentioned unprompted. Bushfires are remembered as routine events and easily beaten out with wet bags and bunches of gum leaves. After this small history, white patriarchy continues with bushfire mitigation's tensions and conflicts in Chapter Four.

I join the Arrawonga volunteers as a firefighter and participant observer. No Indigenous Australians disclose themselves amongst informants. This suggests an under representation through racial bias as Lake Macquarie's population is about 2.8% Indigenous Australian (see Australian Bureau of Statistics 2001: 14 & 1996a: 11-13). The brigade's most powerful personality is Heather, buxom, boisterous and occasionally prone to tirades where "f…ing c…t", rather

unnecessarily I thought, pepper her sentences. Her dress shows more imagination with her trademark display of low-cut brassieres and scoop necked bodysuits. Can such décolletage owe its uplift to the fire service's regulation pure cotton or wool underwear? I dare not ask. There are hard drinking men, some who smell of alcohol behind fire truck wheels. There is Jenny, a firefighting grandmother and her boyfriend, Glen whose barbecues I am warned with winks and guffaws to avoid. These then, are some of the personalities that combine for my experiences as a volunteer.

In Chapter Five, their enthusiasm for research on their bravery gradually dies as I witness many bungles and inarticulate conflicts. The firefighters exclude and support in gendered as well as non-stereotypic ways. They also do the unexpected according to emergent themes from feminist literature; women are bitchy towards other women and men. These women firefighters are best accepted when "they know their place", a location where, apart from Heather, they do not aspire to be men's firefighting equals. This contrasts with the Cessnock region of the Prologue. Here women firefighters were far more articulate, happy to talk, gave egalitarian accounts, and described themselves as well accepted by men as they manoeuvred around orders from paid hierarchy. Findings of white patriarchy's connections to the bushfirefighting problem are generalised through an historic database in the next two chapters. Bravery's importance to male/female/black/white relationships is examined.

A knowledge gap appears about the ways Indigenous Australians once successfully mitigated bushfires. Chapters Six and Seven show connections between the growth of a white male icon of bravery, the wildfire problem and white women and Aborigines' exclusion. Newspaper articles on white women's and Indigenous Australians' struggles for emancipation contradict articles on white male firefighting bravery. These contextualisations heighten data sensitivity by clarifying knowledge gaps, contradictions, assumptions and anomalies. Pivotal is the emergent patterns of social boundaries. These boundaries relate to bravery's persistence as a notion to amass white male power and status. A trickle of newspaper discourse represents women and Aborigines, compared to a dramatic flood on white male bravery. With the

growth of media portrayal of white male bravery and bureaucracy, bushfires worsen. Bushfire reports, scientific evidence, Indigenous Australian protests and coronial recommendations are ignored. Paul Ormerod's (1988: 155-8) method of measuring system changes is used to graph the three manifestations of bravery. *Before* data on the X axis are graphed against *after* data on the Y axis. Calculating change from one year to the next, spirals emerge around time spans embracing massively different social conditions such as periods of war, depression and technological developments. These spirals or systemic changes are clarified by qualitative analysis of newspapers and other literature. The findings point to iconic bravery as a white male means of controlling social spheres through chronic distancing from a large body of evidence about bushfire prevention and suppression (Chapter Eight). Competing knowledge fields underpin the bushfire problem's persistence. Two of these problematise women and Aborigines and two problematise these problematics. As the following chapters on competing knowledge fields show, meanings of social phenomena and emphases in research vary, as do the dimensions of a problematic. The next chapter discusses competing claims to research knowledge and the importance of understanding gender and bravery in disaster management. This synthesis will inform later chapters on the spiralling impacts between academia and notions of bravery, the correctness of assumptions of the dominance of white male bravery and the disastrous consequences of ideas of superiority.

CHAPTER TWO

TWO A

2A: 1 Introducing Theoretical Themes Relevant to Gender Boundaries in Disaster

R.W. Connell called an overview of strands of thought from academic theory a history of ideas. Connell's history focused on gender and power (1987: 23, 27). In comparison, mainstream disaster studies are a chronology of events highlighting white men in areas like warfare. Without acknowledging a bias, white women are an afterthought. One exception deals with gender in debilitating, long-term psychological damage that sometimes follows trauma. Mainstream post-traumatic stress disorder theorists target a cluster of "feminine" symptoms as the disorder's embodiment. Feminist accounts show that compared to white men, white women have a long history of more hostile environments. This has been so serious a disadvantage that in itself it has brought women disaster. Feminist accounts contradict mainstream theories of PTSD. The next section outlines feminist research to correct the invisibilisation of female struggles.

2A.2 Some Historic Theories of Femininity's Disadvantages

Except for mentions of women as queens, noblewomen, saints, abbesses and wealthy widows, recordings of white female bravery are rare in mainstream history. Implicit in this under representation is a history of purported puniness. Until the Enlightenment, brave white women took a minute amount of mainstream space punctuated by military conflict and recorded by a white male elite (see Lloyd 1984 & Pateman 1995). Brief portrayals positioned brave women of undistinguished social position as hideously doomed by their audacity rather than the more usual rewards given men for courage. Despite rare exceptions such as the Pythagoreans, white women thinkers had little impact. Only very powerful women escaped a chilling fate if they bravely broke with convention and explored non-stereotypic spheres (see Thomas 1967,

Rowbotham 1974 & Duby & Perrot 1992-1993). Underpinning their courage was realising and acting on concepts such as social struggle, liberation, hegemony, status and class. In this context, mainstream historical constructions of bravery blocked white women's full social participation.

2A.3 A Feminist History of Bravery

Historic chasms where women's activities were a mystery reproduced an elite white male hegemony that can be traced to Plato's analysis of bravery millennia ago (see Plato circa 370-5 BC, 1888: 119-20, 134-5 & 182, Rowbotham 1974, Spender 1991, Pateman 1995, Lloyd 1984 & Shute 1995). Feminist historians prised instances of white women's bravery from discourse once considered beneath consideration and shown women's importance. So great was the power of placing men in the foreground that women's stories are fragments in time, where unlike men, they had once been discursively even less visible than in feminist reconstructions. Feminist historians argue that having realised their subordination, women value the discovery of their past. Intrinsic to realisations is the idea that women are capable of the types of bravery once attributed to stereotypically white masculine behaviour.

The spread of the idea of equality began with the realisation of the myths of white male bravery. In a sense, white women were complicit in their exploitation by not realising the possibilities earlier. For this reason I am dissatisfied with feminist literature which focuses on women's exclusion. It is also a history of identities that never conceived exploitation and the power of cultures and traditions that made claiming new rights reprehensible. Histories of gender myths show decided improvements for women from the Enlightenment. These changes depended on women's realisation of their potential through their own actions, admittedly with the support of men against other men and ironically, other women (see Pateman 1995 & Lloyd 1984). Feminist histories trace the diminution of frameworks of "femininity" and the glorification of frameworks of "masculinity". These nebulous polarities have shifting boundaries enclosing clusters of meaning, behaviour and personality that are considered appropriate for males and females.

Genevieve Lloyd (1984) and Carole Pateman (1995) anchored gender histories in different dimensions. From the 17th century, Pateman (1995) traced changes in the notions of women's sexuality as a contractual commodity. She theorised this sexual contract as a master slave relationship hidden by notions of men as primordially women's leaders. She pointed to the way this social inheritance transformed in modern times and is still normalised. For example, the "normalcy" of female deference to males poses serious problems for women's capacity to self-actualise and participate fully in conversation (see Brownmiller 1985: 76-95 & Tannen 1991). Lloyd (1984) returned to Euripides to trace the strands of historical discourse depicting women as inferior intellectually and morally to men.

> The obstacles to female cultivation of Reason spring to a large extent from the fact that our ideals of Reason have historically incorporated an exclusion of the feminine, and that femininity itself has partially been constituted through such processes of exclusion.
>
> (Lloyd 1984: x)

I argue bravery's significance in the equality debate (see Poiner & Wills 1991 & Grimshaw, Lake, McGrath & Quartly 1994). Like myths about primordial white male intellect and leadership, assumptions of female pacifism have a long history. Mainstream recordings from ancient Greece were not intended as shining examples of female valour, but warnings against it.

2A.4 The Persistence of Anomalous Women

Hypatia and Agnodice were exceptions in a white male hegemony that made examples of feminine rebellion (see Alic 1986: 24-36 & 41). Fourth century BC Greek Agnodice risked the death penalty to practice obstetrics disguised as a man. She was a doctor of brilliance, making most of the major contributions in her field until the first century AD. Rival doctors denounced her as a seducer. Dropping her disguise, she faced prosecution and death. Athens's women mobbed the Greek courthouse and a group of noblewomen appeared before the hearing, threatening to die with the doctor. Agnodice was allowed to continue practice and the Greek law changed so that free women could practice medicine (Alic 1986: 30). Hypatia's debut as a scientist began inauspiciously at a time Greco-Romans were converting to Christianity (Alic 1986: 41).

All went well for Hypatia until an inquisitorial style of Christian became patriarch in her city of Alexandria. She was given the choice of converting from her neo-Platonist beliefs or death. Following Socrates' example, she refused to convert. Her ghastly death followed a similar incident over a century earlier. Here, pagans murdered a Christian Alexandrine scholar called Catherine (Alic 1986: 46). Centuries later, change came to bravery's pattern of a few women's grisly fates in amongst men's rewards for bravery.

2A.5 The Dark Ages and the Devil's Temptress

With Christianisation, there were even fewer recordings of European women's courage and, like Hypatia and Agnodice, these tended to be about women from privileged backgrounds. Mainstream European portrayal of women went from diminution to vilification. Clerics wrote extensively of women as the daughters of Eve and the devil's temptress (Dalarun 1994: 15-42 & Casagrande 1994: 70-104). Medical writers added to the new low, portraying women as insatiably lustful and predisposed through their wombs to putrefaction and the vapours (Thomasset 1994: 43-69). Women were kept under strict surveillance in their role of procreation. Like many, Hildegard of Bingan sidestepped what was purported to be the unpalatable sexuality of marriage when her aristocratic family placed her in a Benedictine convent. She lived until 81 and (unlike St Cyril who got rid of Hypatia) missed out on beatification despite three investigations (Alic 1986: 62-67). Well-placed women such as Hildegard aside, the average European female continued to be delegated to the lowliest recesses in accounts of mainstream bravery where women were said to be essentially evil. Hildegard enforced ideas that less privileged women's lives were worth little by actively eradicating so-called witches. Feminist evidence suggests European notions of femininity predisposed women to such inferiority.

2A.6 Women's Susceptibility to Poverty and Low Status

There was a surplus of women in the population unable to provide for themselves. Women were treated like a plague of fatally venomous snakes (see Opitz 1994: 312-7). They overflowed from mainstream European convents and nunneries. Many lived on the streets, resorting to prostitution and other contentious means of support. As towns grew into cities, they began to communicate and organise into religious movements. Some started new

vagabond religious orders. Women accounted for the majority of witch-hunt executions (Sallman 1994). Self preservation most likely motivated their recognition of the importance of forming networks to improve their living standards and to change their self-identities. Hostility grew towards women's increased communication and organisation (Duby 1994: 483). New laws in the late 17th century barred them from trade in guilds. Curiously, a drastic philosophical reversal emerged from this gruesome scenario.

By the eighteenth century, European women of all classes began to access arguments on human rights. Inspired, and given the opportunity to join with others, French women of all classes fought in the 1789 French Revolution and the 1871 Paris Commune. The commune was a rebellion against the 1789 revolution's failure to deliver better living conditions for the disadvantaged (see Wollstonecraft 1795, 1975: 441-2 & 453, Marx 1870-71, 1954: 87-88 & Rowbothom 1974: 102-4). Pre-revolution, proletariat women's wages were about half of their male counterparts. Making a lie of the promise of equal rights, post-1789 government policy attempted to exclude poor women altogether from earning a living (Johnson 1980: 110-33). Prostitution increased because there was no way to earn a living or to supplement meagre wages after long days of physically demanding work (typically as servants). There were ugly scenes of female violence over bread and other basics.

Napoleon Bonaparte treated such women as a great threat. Public workshops where women once eked out a meagre living were closed as too inefficient. Hospitals had been a source of care as were food outlets and shelters for the poor. These gradually all closed. Pre-revolution, agitators were considered lawbreakers, but the system for their detection and punishment had been comparatively weak. Compared to men, women had been considered too inferior to commit serious crimes and were sentenced lightly. By contrast, Napoleon hated the angry female mob, treating them as public and moral menaces. All sorts of strategies maximised their surveillance. Police informants reported anything resembling political agitation. Napoleon was right, women proved a great threat, but he was the victim of his own self-fulfilling prophecy

(see Johnson 1980: 10-33). Anger amongst politically mobilised sections of the population culminated in the second revolution of the Commune.

Some feminist historians argue French women as the first to justify their gender discontent by proving braver than men at the Commune's front lines (Rowbotham 1974: 106-7 & Thomas 1967: xi-xii, 31, 45 & 121). After the abortive revolution, one male aristocrat described the women's determination as hideous. Most of these women had strong physiques from long hours of hard work. Muscles swollen from battle and black with gunpowder, the canteen workers defended the front after most men left. An army officer at their trial said the women were the essence of the diabolical… renouncing womanly traits to become the most dangerous fighters (Thomas 1967: xi-xii). Although mystery surrounds the identity of those who fired sections of Paris (and there is a possibility government troops were responsible), the women from the barricades bore the blame. They met a ghastly fate after their defeat (see Rowbotham 1974:106-7 & Thomas 1967: 151-2). Temporary social elevation at times of emergency is a common theme emerging from feminist histories. Splits from the passive feminine stereotype have been characteristically *allowed* substance at times of crisis and discouraged during stability (see Rowbotham 1974: 226, 240-1, 245-6 & Thomas 1967).

Nevertheless, the French canteen workers surpassed men in courage. Driven by harsher circumstances and therefore deeper resentments over broken promises of equality, they were more desperate (see Rowbotham 1974: 105). This gave the ruling class on the non-progressive side something to fear. The notion women could participate as citizens proven, networks established and books written, the idea of equality for all spread more (see Thomas 1967, Taylor 1983 & Sledziewski 1995). Inspired by and inspiring the French and the American revolutions, progressives debated ideas on equality. Pioneers such as Mary Wollstonecraft, William Godwin and Robert Owen divided the middle and upper classes on the question of equality (Taylor 1983: 9-10). Feminism travelled to the far ends of the earth.

2A.7 Feminism in Australia

In Australia, early white woman writers gave brief glimpses of the Australian struggle. Barbara Baynton wrote of white men as generally contemptible and exploitative of women (see 1902, 1988). Ada Cambridge saw men as more complex, ranging from smooth talking cads to wisely supportive, through to naively supportive (see 1904, 1989). Women were prized as friends. Early 19th century feminists such as Vida Goldstein saw temperance and peace as central to the women's movement (see Bomford 1993). Peace activism lost support for the women's movement during the nationalist sentiments of the first half of last century. Marie de Lepervanche (1979) analysed women's location in the eras surrounding the two world wars.

Government rhetoric portrayed women primarily as supporters of men and breeders of a healthy defence force. In extreme necessity, women could do men's work, but after hostilities ceased it was considered unpatriotic to retain jobs seen as rightfully men's. Jill Roe (1988) analysed the ways the bravery of servicemen entitled them to bigger rewards than those given to women for their efforts. War also impacted negatively on men. Joe Pugliese (1995) and Stephen Garton (1995) showed returned servicemen could be losers when repatriation compensation such as farming ventures failed financially and when PTSD continued into peacetime. Carmel Shute (1995) described women's eligibility for a form of second-class bravery, which was supportive of men. She (1995) argued that men's belief in myths of masculine bravery was also a disadvantage because of the falsity of their self-identities. In the two world wars, a barrage of social facts disempowered women as secondary in value to men, rightfully in the home and supportive of, and, dependent on men. Second wave feminists took up the notion of this female emasculation.

2A.8 Second Wave Feminism

Susan Brownmiller (1985) and Wolf (1991) wrote of handicapping and hegemonic notions of femininity. Uncovering elements of male hegemony, even feminist analysis gave the passage of European heroes and heroines a sometimes critical but blurred focus (see Greer 1989 & Sanday 1984). Perhaps this was because of the overlap of boundaries between fighting for what is perceived as one's own in feminism and taking someone else's in mainstream accounts of bravery. As part of the knowledge about limiting women, Susan

Brownmiller described women's vulnerability to rape and a culture that legitimises it (1976). She argued that despite social location and attitudes that limit feminine identities, women are not destined to submit to this hegemonic sexuality. Most rapes occur when women feel overpowered by attacker numbers, weapons or being throttled (Brownmiller 1976: 357-61). Women who appear vulnerable or do not fight back are most at risk. To examine the dynamics of self-defence, she trained in martial arts for three months (1976: 403-4). Amongst other anti-rape strategies, she argued women's self-defence classes normalise a competitive and aggressive will to fend off attackers.

> It is no wonder, then, that, most women confronted by physical aggression fall apart at the seams and suffer a paralysis of will. We have been trained to cry, to wheedle, to plead, to look for a male protector, but we have never been trained to fight and win...
>
> Most surprising to me, I think, was the recognition that these basic aggressive movements, the sudden twists, jabs and punches that were so foreign to my experience and ladylike existence, were the stuff that all little boys grow up learning, that boy kids are applauded for mastering while girl kids are put in fresh white pinafores and patent leather Mary Janes and told not to muss them up...
> (Brownmiller 1976: 402-3)

Research followed showing little girls desire stereotypically masculine pursuits. As a peripheral discussion in Shards of Glass, Bronwyn Davies (1993) researched boys and girls' cultivation of a taste for gendered social and symbolic space. Femininity was less attractive to both sexes. Girls desired to take on male roles while little boys hesitated to take on girl's. Linking gender to monetary and symbolic value, feminists such as Cynthia Cockburn (1984) described the unequal outcomes following on the heels of girls' diminution. In Cockburn's Brothers (1984), unionised men kept women with suitable skills out of good jobs in the printing industry. This diminution also emerged from literature on rural Australia.

Rural sociologists found women already working long hours on family farms took on extra work to meet the economic necessity of drought, but with little changes in power or acknowledgement (Alston 1995a, 1995b & 1998 & Gasson 1992). To preserve their family farms, women worked in low–status jobs that they were overqualified for, or used on the farm activities such as large-scale poultry production (Alston 1998). As incomes dwindled, they also replaced hired labourers. In some cases, their spouses and the older generation saw this extra work as a threat to patrilineal farm inheritance. Nor did government acknowledge their contribution. For their extra workload, there was a small change reported in traditional patriarchal power relations within the home. The inconsequentiality of huge workloads prompted women to mobilise and lobby for recognition. Ken Dempsey (1990 & 1992) described a similar pattern of patriarchy, focusing on men's comparative wealth and power in two studies on rural towns.

Themes of disadvantaging social facts clustering around femaleness and advantaging social facts around maleness also emerge from the literature on the sexuality of organisations (see Hearn, Sheppard, Tancred-Sheriff & Burrell 1989). Analysing the impact of such traditions, Deborah Tannen (1991) found men dominate women in conversation. In work on volunteers, women predominate as carers; their unpaid labour traded for new skills to move into the paid workforce, and, self-actualisation (see Baldock 1990 & Munford 1992). Baldock (1990) found voluntary organisations maintain their numbers and draw new recruits by being democratic and egalitarian and that volunteers felt unhappy if asked to do work they felt should be paid. Both volunteers and administrators described a supportive atmosphere fostering personal growth and paid employment prospects. Munford (1992) found gendered types of bravery in these organisations. Female carers gained admiration for persevering in impossible situations and male carers for succeeding. Dale Spender (1991) in Heroines also saw bravery as another dimension of the gendering of human worth and empowerment.

Spender (1991) addressed the under representation of brave women. She did not argue that prior to feminist discourse, women were rarely brave, but that

their voices were in the main unrecorded. She described a range of bravery, often highlighting the despicable behaviour of men and pointing to women straining at gendered boundaries. The feminist theories of bravery in this chapter show that these boundaries have been fought over, not to be masculine, but to gain access to the status and power that has been an arbitrary feature of white men's spheres. At these gender and power frontiers, white men and the mysterious self-fulfilling prophecies tacit in social fact have massively impacted on white women's social spheres. These social facts draw upon millennia of beliefs, discourses and social practices to imbed in social structure. Despite rare historic glimmers of women's outstanding bravery, bravery's masculine linkage is a pivotal assumption in mainstream thought. In the next section, feminists challenge contemporary relics of ancient social facts in the field of disaster.

2A.9 The Significance of Women in Disasters

I outline some gendered and/or racialised analysis. Examples range from the prejudices towards women of colour in public housing estates and shanty towns in the United States to the under representation of Australian women in management (see Morrow & Enarson 1994, Gartland 1995, Leavitt 1992 & Williams 1989). In Christine Williams's (1989) work on US male nurses and female marines, male nurses were perceived as the best leaders and so promoted over women. Femaleness was even more of a disadvantage in the male-dominated marines where women were a kind of fighting man's handbag. Women were not allowed into combat and had to be well groomed, even for training exercises. Most female marines blamed their lack of combat participation and consequent problems with promotion on the bad example set by the female population. Women who fitted into the role of the decorative and second-class stayed in the marines, while women who saw inequality as a problem left. Conversely, male nurses tended to adopt a form of hyper-masculinity in the female-dominated world of nursing. Like combat in the US military, in rural Australia in 1965, bushfirefighting was a male preserve.

Gretchen Poiner (1990: 1, 2, 164) described bushfires in the farming district around Marulan in the Southern Highlands of New South Wales. Women made food and cups of tea for men who fought the fires. Despite the economic

problems of property damage and a recession, two women said the fires were liberating as economic necessity justified a break with tradition to work outside their farms. Women's influence and social visibility impressed Poiner. This glimpse into white rural Australia with women as sandwich makers and bearers of cups of tea contrasts with Helen Cox's (2000) study of women after 1983 bushfires in Southeast Australia. The women in the Ash Wednesday fires were different to those on farms in Marulan 18 years earlier. Less stereotypical, some were business owners; another supported herself as an artist; one was a retired professional photographer and others were holidaymakers. Nevertheless, firefighting was man's work. There were exceptions. One evacuated to a crowded beach during bushfires. Returning home because she wanted to use the toilet, she saved her home by throwing orange juice and beer onto a burning gumtree built into her deck. Evacuation, recovery and better future planning were described as women's work in this self-reliant community.

The fire was a source of unity and humorous stories. A woman organised a mainly all-woman fire prevention and education group to visit residents and advise how they could plan for coming bushfire seasons. The women made bushfire plans that included helping those who could not evacuate on their own and helped those who could not clear fire hazards. Pamphlets were distributed. The organisation was reported as working well until it was taken over by a local authority and a male coordinator appointed. The household visits, pamphlet distribution and evacuation planning for the frail and elderly ended. Some women felt gender issues prompted the government intervention. Women also celebrated the fires to revive community spirits and draw back tourists. There were bush dances, street theatre, a cricket match, and a carnival on the river. The privileges made possible by the higher socio-economic status of the Marulan and Ash Wednesday women in disaster contrast sharply with the pressures faced by women in Los Angeles.

Jacqueline Leavitt (1992) discussed women of colour who lobbied for improved public housing in South Central. After jurors acquitted four white policemen who assaulted (African American) Rodney King, race riots engulfed the area. The

angry mob torched, smashed and looted. Women who had mobilised disadvantaged people in the South Central area over substandard conditions found their lot even harder. The public housing estate was a sad place to live even before the riots turned the landscape into a burnt-out wasteland. It had unlit streets. Scattered with syringes and broken glass, bare dirt recreation areas smelled of urine. Leavitt began visiting several such developments as a town planner and found mostly very poor women and their children. She described their determination to gain control over their environment and battle prejudice. Somehow, both government officials and the media blamed the inhabitants for the rundown conditions. A survey the women conducted before the riots showed they wanted trees, birds and an end to bullets coming through windows at night.

After the riots, a woman called Nora showed that she understood more about implementing plans to rebuild than government architects. This helped Nickerson Gardens women negotiate more control over their circumstances. They rejected offers they considered too small for repairs. Stores, laundromats and workplaces were wrecked. The women ran a foodbank and extended their demands to land rights over burnt-out buildings, land for a laundromat, reconstruction, education and employment. Their tightly knit, self-reliant networks were firmly directed towards strategies for a healthy environment. Perhaps psychological problems were the least of the women's worries, as Leavitt does not mention them. Women predominated as leaders, and appointed some men. Women were also the means of community security. They monitored windows and teenagers' lifestyles and drove junkies from their doors. Another racialised and gendered analysis described women's mobilisation after similar inequities followed a hurricane (see Morrow & Enarson 2000b).

In Florida, poor women and their children missed out on relief because men misrepresented themselves as their household heads (Morrow & Enarson 1994: 4). As with most disasters, the worst affected by Hurricane Andrew were those with the least resources and most reliant on government support. These were disproportionately women of colour such as migrant Mexicans, Haitian

refugees, South American immigrants and African Americans. The United States Government gave over 4,000 families caravans and mobile homes until they could find better accommodation. President George Bush senior hired a former publishing executive to head the relief effort (Enarson & Morrow 2000: 188-9). The publisher recruited his network of local, mainly leading white male citizenry to form *We Will Rebuild*. Its stated mission was to guide recovery, using millions of dollars of private donations and public funds. One of its first goals was to rebuild the Chamber of Commerce. A media scandal broke. As Miami's poor crammed into tents, caravans and dangerously damaged homes without basic necessities, *We Will Rebuild* paid its executive director $150,000 p.a.

While poor women were worst hit, only 20% of the committee's decision makers were women. In reaction to elite male opportunism and distancing from the plight of those most affected, women's groups formed the adversarial *Women Will Rebuild.* This organisation too, proved controversial but nevertheless succeeded in giving women a voice (Enarson & Morrow 2000: 191-3). Similar to most disasters, poor women took the longest to recover. For 20% of the displaced and the poorest section, this process took years. Life in damaged and sometimes condemned public housing, cars, caravans, mobile homes and tents brought problems with domestic violence and masculine substance abuse. Many women were single parents, and, single or not, most said they were their family's prime support. Despite fears of retribution, women successfully ran a media campaign centred on the needs of the disadvantaged. They battled with *We Will Rebuild* to gain more equity in funding such as childcare and programs for teen pregnancy and domestic violence. Infighting marred *Women Will Rebuild*'s successes when some of its members joined *We Will Rebuild.* Conflicts over feminist loyalties marked the coalition's closure. This lack of female unity in disaster has parallels with research on Australian women police officers.

Jeanna Sutton (1995: 147-9) researching the New South Wales Police Service, found a culture of women competing against each other for men's favours. Eighty per cent of women reported they had been sexually harassed at least

once and 43.4% more than ten times. Most said they took no action, fearing the situation would worsen. Policemen were unpleasant characters, "pervs", "misogynists", "violent", "had bad attitude towards women", "99% of them are unfaithful bastards" and, far from righting wrongs at every turn, "the real criminals" (Sutton 1995: 147-9 & 154-8). There was no feeling of a need for unity with other women to survive, but a tendency, despite everything, to seek male approval and to see other women as a problem too. Women police officers reported there was usually something to rumours of male-female colleagues' sexual liaisons. Women were also said to be harder on women, tried to be one of the boys and lacked strength of character. Theorists such as Williams (1989) and Sutton (1995) focused on the imbalance in perceptions of worth as primarily disadvantaging women. Shute (1995) argued that such assumptions also bring men problems because they are mythical, and so the next chapters will probe data on bushfires to explore this contradiction.

This analysis of bushfires aims at shedding further light on feminist theories about linkages between equality, bravery and social location. Feminist research shows that obstacles hindering an equal footing with males litter female lives where more bravery than males is needed to achieve comparable outcomes. Mainstream theorists argue that males are superior to females in handling pressure, and, implicitly, are therefore braver (see Hawthorne & Osborne 2005 & Creamer, Burgess & McFarlane 2001). This thesis will examine the bushfire problematic to probe this contradiction. Contemporary mainstream arguments are couched in terms such as sympathetic nervous system overactivity, hyperthalamic-pituitary-adrenal axis, drug interactions, psychoanalytic therapy, imaginal systematic desensitisation and post traumatic stress disorder (see Morris 1996: 7 & Keane 1995: 2). Contradictions over who is brave justify research on shifts of focus in who is the problem in bushfirefighting. Once focus shifts in bravery are found, evidence of the validity of who is brave will be weighed. Questions about who faces the greatest risks will concretise weighing the evidence. This polarity between feminism and the mainstream shows a number of positions about the interpretation of knowledge can be taken at one time. Bravery’s status has a remarkably long history as a barrier to piercing questions.

CHAPTER TWO B

2B.1 The Significance of the Insignificance of Women

White male elite reproduction of power through war, politics and hegemonic ideas of bravery can be traced back 23 centuries (see Plato circa 370-5 BC, 1888: 119-20, 134-5 & 182, Machiavelli 1513, 1984, von Clausewitz 1832, 1976 & Strachan 1983). The earliest record found in this literature review argued implicitly white male soldiers as a population's bravest (see Plato circa 370-5 BC, 1888: 120 & see Robertson 1995 & Gartland 1995). Ancient analysis of war recognised that bravery developed through exercises that normalised combat in dangerous situations. Aggression turned into well-honed automatic reactions and fighters strengthened to intimidate opponents. Called a science and an art, data gathering was essential to early war studies... as shown in this analysis of training in full armour.

> (Nicias)… No gymnastics could be better... such an acquirement... will be of the greatest whenever the ranks are broken and you have to fight singly... Let me add a further advantage, which is by no means a slight one - that this science will make any man a great deal more valiant and self-possessed in the field.
>
> (Plato circa 370 BC, 1924: 88-9, my bracketed insertion)

Plato most discussed bravery in the Laches (see circa 370 BC, 1924: 85-111). Courage was no primordial quality to be taken at face value, but cultivated and analysed (implicitly from a hegemonic stance). Its study aimed at a dialogue between desire, fear and grief. Soldiers mastered their bodies to choose danger over pleasure and their fears to discern between true and false danger. Having intelligence and the knowledge to assess risks added to the amount of courage or *andreia* (Plato 370 BC, 1924: 109). Wisdom, temperance and justice made up courage's highest form, as epitomised by Socrates during his death (Plato circa 370 BC, 1975: 72). He was sentenced to death when he refused to recant his beliefs as a philosopher. He is described as dying confident that freed from his body, he would more fully inhabit a spiritual world, which he had already entered through higher thought. There was a sliding

scale of lower and higher braveries that was thought to justify the social locations of the governed and the governors.

> (Socrates) On the other hand, those steadfast natures which can better be depended upon, which in battle are impregnable to fear and immovable, are equally immovable when there is anything to be learned; they are always in a torpid state, and are apt to yawn and go to sleep over any intellectual toil.
>
> (Adeimantus) Quite true.
>
> (Socrates) And yet we were saying that both qualities were necessary in those to whom the higher education is to be imparted, and who are to share in any office or command.
>
> Certainly, he said.
>
> And will they be a class which is rarely found?
>
> Yes indeed.
>
> Then the aspirant must not only be tested in those labours and dangers and pleasures which we mentioned before, but there is another kind of probation which we did not mention- he must be exercised also in many kinds of knowledge, to see whether the soul will be able to endure the highest of all, or will faint under them, as in any other studies and exercises.
>
> (Plato circa 370-5 BC, 1888: 182, my bracketed insertions)

In his Republic, Plato briefly dropped his justifications of white male hegemony to advocate a utopian community of women and children, where women too could be eligible for consideration as brave on an equal footing to men (circa 370-5 BC, 1888: clxxxii, clxxii, 158-9 & 162-3). He observed that the personality and behaviour of women seeking education revealed similar intellects and abilities to those of men. Dogs and bitches hunted together he reasoned, and so, the rules keeping women within the home were contrary to humanity's better interests. As women showed philosophical capability, there was no reason to suppose they should not hold equality as citizens and be hunters and soldiers. Elsewhere, women disappeared entirely from his theories of bravery, descending back to the ranks of sub citizen without questioning the contradiction. Rare descriptions emerged such as women having men’s fallen

souls, justifying criticisms Plato was a misogynist (see Lloyd 1984: 2-5). Nevertheless, for his time he was a groundbreaker in his insights, with ideas impacting across time. During the Renaissance, detailed analyses of battle strategies revived his knowledge (see Machiavelli 1513, 1984).

His findings of the importance of the psyche for white male domination survive until this day.

> …2 *The offensive,* which is the stronger form of warfare as it affirms morale and only it can lead to victory. The defensive is weaker because it disperses resources, yields the initiative to the enemy, and is therefore acceptable only as the prelude to counter-attack…
> 10 *Morale,* without which no troops will carry out even the best plans.
> (Strachan 1983: 1-2)

Compared to heroes, the paths of heroines do not always run smoothly. Showing the persistence of connections from antiquity, women are barred from contemporary combat that this war studies analysis describes. Women's problematisation justifies their absence. Feminists criticise this problematising of femininity (see Finlay 1992: 1 & Enarson & Morrow 2000a). The field of psychiatry has already drawn feminist criticism for gender bias. Feminists point to different treatments for similar anti-social behaviours in men and women (see Quadrio 2001, Russell 1995 & Russell 1986). Women are diagnosed as mad to be treated psychologically and men as bad to be treated through juvenile justice and prison. Female patients and psychiatric practitioners are also prone to misogynist practices at male psychiatrists' hands. Within the field of mental health claims compete over bravery's downside and its antithesis… trauma. Questions of bias in mental health fields and their impact raise questions to inform later data gathering about bushfirefighting. Cross-cultural evidence gives depth to these findings of ideas' impacts on bravery and trauma.

2B.2 Bravery's Antithesis… Psychological Impairment from Trauma

In his diaries of his missionary work in New Norcia near Perth, Western Australia in 1848, Dom Rosendo Salvado noted an Indigenous Australian cure for trauma… warfare with unfriendly neighbouring clans. Salvado cured an Aboriginal man of bad skin ulcers.

> The trouble was deep seated and intractable, and I had to write to my friend in Perth to send me the necessary medicaments. Three days later Bilyagoro was back with them, thanks to which the sores disappeared as by magic within two weeks. The poor fellow was beside himself with joy for the recovery of his health; he ran this way and that, danced, jumped, shadow-fought, as if the recovery of his health was too much for him! Then, not knowing any other way of expressing his gratitude, he burst out with this: 'When you die, I will be so sorry that I will kill six natives, not just one, so that everyone will see how much I think of you.'
>
> (Salvado 1851, 1998: 77).

Bilyagoro's clan considered war a cure for trauma. Conversely, the desire for more effective warfare brought a search for a trauma cure within European culture.

Amongst neo-European practitioners looking for cures, titles for wartime trauma included gas hysteria, shell shock (see Mereth and Brooker 1985), war neurosis (see Freud 1917-19, 1971: 212-5), combat exhaustion, battle fatigue (see Kentsmith 1986), anxiety neurosis (see Greer 1989: 189), psychic impairment (see Green, Grace, Korol, Grace, Vary, Leonard, Gleser & Smitson-Cohen 1991: 945), psychic trauma (see Terr 1979) and post traumatic phenomena (see McFarlane 1987). At the end of World War I, the German authorities commissioned Freud to report on war neurosis. Freud noted that prior to the development of his theory of psychoanalysis, some practitioners thought the disorder was due to shock from explosions (1901, 1971: 114). German medical practitioners labelled the debilitating anxiety as malingering. They thought painful electrical jolts removed thoughts of the advantages of recall from battle (Freud 1917-19, 1971: 212-213). Unsurprisingly, troops relapsed when returned to battle. By contrast, Simmel reported "extraordinarily favourable results achieved in severe cases of war neurosis by the psychotherapeutic method" (Freud 1917-19, 1971: 215). Despite Freud's work on the long-term effects of childhood experiences, he seemed unaware that wartime trauma can linger (1917-19, 1971: 212-3).

World War I peace advocate, Siegfried Sassoon described the struggle to forget bravery's negative side (1957: 29, 78, 89, 90). Triggered by moths in a candle flame, painful thoughts invaded at night in peacetime.

> ... No, no not that - it's bad to think of war,
> When thoughts you've gagged all day come back to scare you;
> And it's proved that soldiers don't go mad
> Unless they lose control of ugly thoughts
> That drive them out to jabber among the trees.
>
> Now light your pipe; look, what a steady hand.
> Draw a deep breath; stop thinking; count fifteen, and you're as right as rain...
>
> He gnaws his nails thinking of reading
> Then of the rain in the garden and the ghosts and his thoughts return to war.
> (Sassoon 1957: 89-90)

There was an arbitrary line in his poetry between those who were considered cowards and those honourably afflicted with breakdown. Sassoon (1957: 29) described anxiety-ridden Jack who tried to get sent home too soon as a "cold-footed useless swine". Jack died because he panicked in a trench and only his mother cared. Soldiers who lasted longer received more reverence.

> ... Of course they're longing to go out again;-... They'll soon forget their haunted nights; their cowed
> Subjection to the ghosts of friends who died, -
> Their dreams that drip with murder; and they'll be proud
> Of glorious war that shatter'd all their pride...
> Men who went out to battle, grim and glad; Children, with eyes that hate you, broken and mad.
> (Sassoon 1957: 90)

The gory theatre of war has been an abundant source of information about trauma within the mainstream. Following the "Great War" described by

Sassoon, the horrors of World War II produced vast amounts of data from casualty units (see Kentsmith 1986).

Using developments in statistics, proponents of Freud's new psychology argued there was no correlation between personality and psychological collapse. Breakdown was linked to the type and magnitude of trauma and appropriate and adequate support. In the finding of a supportive social location's contribution to weathering trauma, I underline the contradiction in separating an individual from his/her social network. These early analysts did not take cooperative and positive attitudes on an individual level into consideration as components of a larger social system. However, the analysis was significant for finding well-evidenced prevention strategies. Reminiscent of Platonic models, troops were taught the buddy system of morale building through group cohesion and training to familiarise troops with war conditions (see Mereth & Brooker 1985). To develop this, researchers used uniform criteria to gather and analyse a large enough body of data to generalise with validity and reliability. This research style ended in the second half of the 20th century, causing problems with rigour in trauma research. Wartime casualty units no longer provided extensive databases on war's psychological impacts with uniform methodologies. The term PTSD began to gain currency in the 1980s as the result of work done with veterans of the Vietnam War (Shalev 1993: 102). Within this knowledge field, people of colour and women and girls were said to be far more PTSD prone than white men and boys (see Palinkas, Downs, Petterson & Russell 1993, Norris, Perilla, Ibanez & Murphy 2001, Stein, Walker & Forde 2000, Bryant, Harvey & Allison 2003, Kessler, Sonnega, Bromet, Hughes & Nelson 1995 & Rosenman 2002).

2B.3 Disadvantaged Groups' Place in the Paradigm

About five per cent of men and 10% of women will develop PTSD according to the (US) National Center for PTSD website (2004) quoting estimates by RC Kessler, A Sonnega, E Bromet, M Hughes and CB Nelson (1995). Despite feminist literature pointing to a feminine predisposition to symbolic, psychological and physical violence, the National Center for PTSD and other theorists claim females are innately more PTSD prone because men are more exposed to trauma than women (see Stein, Walker & Forde 2000, Breslau

2001, Freedman, Gluck, Tuval-Mariach, Brandes & Peri & Shalev 2002). Female susceptibility theorists claim higher male trauma exposure because there are more male emergency workers in fields such as the military, fire brigades and police. In Australia, Stephen Rosenman (2002) contradicts the female susceptibility thesis. Data from an Australian Bureau of Statistics trauma survey of 10,641 adults allowed analysis of a wide range of factors. Compared to men, women were found to be significantly at less risk of *most* trauma. However, 11% of women and 3.8% of men reported being sexually assaulted and 6.2% of women and 0.6% of men reported being raped. Multivariate analysis showed rape to be the most likely of all traumas to cause PTSD. Terror and helplessness were equal first in producing PTSD, so their combination in rape made PTSD twice as likely. Incorporating these factors, femaleness disappeared as an innate susceptibility. The author notes a lack of symptom and diagnosis sensitivity in his data. A lack of sensitivity was unacknowledged in the US research with far more superficial and supposition laden analysis. Maria Gavranidou and Rita Rosner (2003) argue the US female susceptibility findings may be due to research methodology, the high rate of female rape and childhood sexual abuse, the gendering of coping strategies and/or feminine reproduction of low socio-economic status. In a study on floods in the US, Jane C Ollenburger and Graham Tobin (2000) also empirically contradicted the susceptibility theory, finding complex reasons for women's vulnerability to stress and PTSD.

Women's predisposition to longer lives left them more likely to be on their own when elderly and physically unable to deal with disaster. Caretaking roles also made women vulnerable due to the extra stresses of giving rather than receiving support. Prior to the floods, women took far more medication for anxiety and depression than men. Women's doses more than doubled after the floods. Five percent took sleeping medication *before* and 12.4% *after* compared to men's *before* of 1.8% and *after* of 4.4%. Being able to afford insurance proved a significant stress buffer. Women were less likely to be adequately insured and therefore more prone to the stresses of financial hardship from flood damage. Other research points to female victims of violent crime reporting less long-term support than males (see Andrews, Brewin &

Rose 2003, Turner 1994 & Ullman & Filipas 2001). Gender aside, the social location of skin colour and ethnicity placed US minority war veterans at higher risk to PTSD than white predominantly male veterans (see Allen 1986, Penk & Allen 1991 & Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar & Weiss 1990 & Friedman 1998).

This research found North American Indians, Hispanics and blacks most at risk of trauma due to their over representation in areas of heaviest fighting. Minorities also had more PTSD related factors such as non-officer status, less education, experiencing more bullying and family histories of substance and childhood physical abuse and deviant behaviour. This linkage between identity, social location and PTSD underlines a need for in depth and generalisable examination in areas outside of warfare. Such analysis is imperative as psychological collapse from trauma is seriously debilitating. Mainstream association of PTSD with cowardice, the antithesis of bravery, and claims of susceptibility problematise white females and people of colour rather than white male hegemonies. Diagnosis of PTSD would benefit from induction's heightened data sensitiviy to describe the disorder in a way that can be generalised. Current criteria for diagnosis are contentious (see Green 1990).

In legal disputes, psychologists and psychiatrists are employed to assess PTSD as both the adversaries and advocates of compensation seekers. Prior to Kessler et al's 1995 study, legal coverage of PTSD represented the bulk of findings showing a gender disparity (see Green, Korol, Grace, Vary, Leonard, Gleser & Smitson-Cohen 1991: 945). Assessment of psychological damage was tied to the sides mental health professionals represented. Although differing amongst practitioners, PTSD diagnostic criteria generally include nightmares, involuntary intrusions of trauma related thoughts, anxiety attacks and evading reminders of the trauma (Green 1990). Early last century, William Thomas and Florian Znaniecki pointed to clustered interpretations of evidence in legal disputes. A fighting to win attitude shaped witness accounts (1918, 1974: 58-62). In legal awarding of damages, psychological damage is not considered as worthy of compensation as losing a body part or its function (see Napier & Wheat 1995: 56-57). According to precedent, despite contradictory

evidence of blood content changes due to PTSD, psychological damage is thought harder to prove than physiological damage. Generalisations about PTSD have other problems.

2B.4 Contemporary Models and Generalisations

Marring attempts to universalise, during the Vietnam War through to Kessler et al's 1995 study, PTSD proponents generalised from samples that were too small by accepted statistical standards (Robins 1990). The practice of generalising overly narrow findings to the wider population violated quantitative rules of probability and randomisation (see Pagano 1981: 9, 148 & 149). Random samples from the general population are necessary to generalise validly. For maximum accuracy, all the population should be tested, but in Pagano's examples (see 1981: 148 & 149) and as is usual in this type of research, around one tenth is randomly selected. Randomisation is linked to probability because each selection in a random sample is theorised as having the same probability of being chosen. In reality, achieving this ideal can be hard if, unlike censuses, participation is voluntary. Those who are lonely, most likely to be at home (such as elderly widows) or those with a vested interest are more likely to give information. Data from smaller samples can be compared to findings from the general population once a sample is gathered. The probability a difference between the macro and micro occurred solely by chance can be calculated (Pagano 1981: 150-153). National surveys such as Kessler et al's (1995) overcame many difficulties, but data sensitivity was lost, causing problems with reliability and validity.

2B.5 Empirical Validation

According to rules on validity, a large body of evidence from other studies is necessary to generalise (see Sarantakos 1993: 75 & 79). Contradicting the female PTSD susceptibility thesis, a large body of evidence shows women as the principal caregivers in the home (see Rowland 1988: 95, Bittman 1991, Leavitt 1995, Alston 1995, Enarson & Morrow 2000, Cox 2000 & Ollenburger & Tobin 2000). As such, women and girls are located on the wrong end of the bell curve for getting the support that from World War II onwards, data showed to be a vital PTSD buffer. Arguably, women and girls are more prone to PTSD as they shield men and boys. Feminist theory shows women's tendency to many

disadvantages in weathering trauma. There is stress from: housebound isolation, overwork from doing most of the housework and holding down a job, low socio-economic status and/or single parenthood. The reproduction of stressful social locations increases risks of worsened mental health after disaster. Added to this, men find it harder to reveal being stressed (Anderson and Gerenio 1994: 725 & Fordham & Ketteridge 2000: 91-93). Other evidence shows females to be more vulnerable to physical and symbolic violence and therefore stress and trauma (see Sutton 1995, Enarson 1984, Russell 1984, Williams 1989, Poiner 1990, Morrow & Enarson 1994 & Wilson, Phillips & Neal 2000). US research on minority groups shows that they too, in their lower status and more vulnerable social location, shield white males from stress (see Friedman 1998 & Allen 1986). With less education, less status, less supportive family backgrounds, less power during combat and placement in the most dangerous locations, minorities were found to protect white men, in particular those with rank. Attempting to find primordial differences between blacks and whites has long been dismissed as racist and the literature on susceptibility recognises the added stresses faced by minority groups. However, the female susceptibility thesis does not adequately recognise the need to gather evidence to establish any nexus between trauma and essential natures as females and males (if apart from the obvious, they exist).

Instead, my search found mainstream analyses claiming to be gendered. Findings claiming feminine lack of bravery follow similar deductive guiding research principles of earlier psychological work on sex difference (see Maccoby and Jacklin 1975). Ignoring the large body of evidence of the disadvantages of femininity, susceptibility theorists implicitly argue essential differences in bravery between males and females (see Hawthorne & Osborne 2005, Creamer, Burgess & McFarlane 2001, Breslau et al 1996 & Kessler et al 1995). A large body of feminist knowledge contradicts susceptibility theory. To avoid contradiction, the emergent themes from gender literature should inform empirical investigations of gender and PTSD. To avoid the pitfalls of assuming gender traits, these themes of femininity's disadvantages should not be taken as givens, but as questions in data gathering and analysis. To be considered reliable, the same methodology should give consistent findings from different

samples (see Pagano 1981: 119-20). Differences in findings over whether females are more predisposed to PTSD show a need for more qualitative research to explain patchiness (see Rosenman 2002 & Kessler et al 1995). Rules for validity carry through to a theoretical level.

2B.6 Theoretical Validity

Theoretical validity refers to confirming one's findings with theoretical conclusions drawn from other research (Sarantakos 1993: 75). To illustrate, a large body of evidence supports the theory that (hermaphroditism aside) femaleness is a universal notion, but "femininity" has many forms (see Mead 1935, Maccoby & Jacklin 1975, Connell 1987, Sanday 1984, Stanley 1984a & Stanley 1984b). The "feminine" stereotype includes a tearful disposition, supportiveness, going to water in crisis and self-sacrifice in impossible situations (see Connell 1987, Munford 1992 & Walkerdine 1990). These ideas limit females in ways outside of biological destiny. Similarly, "masculinity" advantages males beyond biological size and strength with ideas such as courage, leadership, aggressiveness, decisiveness and carrying on in winnable situations (see Connell 1995 & Stearns 1993). The mainstream PTSD paradigm addresses symptoms of stress clustering within the boundaries of "feminine" stereotypes. The criteria for PTSD are contentious, differing from study to study, but generally include nightmares, involuntary intrusions of trauma related thoughts, anxiety attacks and evading reminders of the stressor (Green 1990). As such, the field leans towards a justification of gender inequality by problematising stereotypic, feminine stress reactions.

Two studies reveal the importance of equality as a stress buffer in disaster. The first examined anticipated stress of handling body parts and the dead (McCarroll, Ursano, Ventis & Fullerton 1993). When women and men who had not handled body parts or the dead were asked to imagine this, women reported more anticipated stress. Experienced men and women reported lower and similar levels. This research suggests changes in circumstance leading to changed identities may reverse a feminine predisposition to PTSD. There is also a case to argue that the stress of emergency workers should be treated separately to discussions of trauma in the general population. As with troops in war, training habituates emergency workers to disasters, teaching them

teamwork and other strategies to maintain morale (Robertson 1995), all factors that act as PTSD and stress buffers. A study of risk perception adds to evidence of the impacts of arbitrary distinctions and the need for greater data sensitivity of induction in PTSD research.

James Flynn, Paul Slovic and CK Mertz (1994) looked at perceptions of environmental health risks. Of black and white men and women, white men perceived comparatively low health risks from environmental hazards. Black men and women and white women perceived similar and significantly higher risks than white men. The authors suggest social location, alienation and trust contribute to risk perception. Implicit in this study is white males' greater sense of invincibility. Such hyper-white-masculinity is less visible in the mainstream and less likely to be problematised, compared to more feminine symptoms such as nightmares, anxiety attacks and flashbacks. In this thesis's search of mainstream literature, findings of white male invincibility myths resonate with Williams (1989) and Shute (1995) but are rare. The paradigms face yet more problems. Linked to validity, are statistical rules for generalisabilty or whether findings can be replicated.

There is debate over the generalisability of the criteria for determining PTSD. The argument hinges on the findings that comparable disasters do not manifest the same levels of PTSD (Steinglass & Gerrity 1990: 1747). Proponents of the universality of PTSD theory argue that contrary findings are due to flawed research methods, in particular poor instrumentation. A large number of stress researchers argue that the greater the impact of the disaster, the higher the psychosocial impact (see Palinkas, Downs, Petterson & Russell 1993; Baum, Gatchel & Schaeffer, 1983; Bromet, Parkinson, Schulberg, Dunn, Shore, Tatum & Wollmer 1986). So far, no research confirms uniformity empirically, only differing patterns. The patterning effect suggests improvements can be made in understanding the dynamics of stress.

2B.7 Recent Evidence of Bias

Representative of PTSD literature, Karen Anderson and Manuel Gerenio (1994), play down trauma symptoms where males predominate (substance abuse, domestic violence and other forms of belligerence). Bonnie Green,

Mindy Grace, Mary Grace, Marshall Vary, Anthony Leonard, Goldine Gleser and Sheila Smitson-Cohen (1991) examined children and teenagers in a longitudinal study following a devastating dam wall collapse. While more stereotypically masculine stress types such as belligerence and substance abuse were downplayed, they increased PTSD risks for those around them. Young people in bad tempered and/or depressed home atmospheres (a classification including parents who said they drank more and were more belligerent after the trauma) were more prone to PTSD than young people in harmonious households. Susceptibility to PTSD increased through to adolescence with teenaged girls the most affected. Other findings suggest ways to more systematically evaluate gender.

Studies of rape victims showed that being believed and treated sympathetically were linked to recovery (see Ruch, Meyers Chandler & Harter 1980). Raped virgins usually described less emotional scars than raped women with a sexual "past". This was thought to be because virgins were believed and treated more humanely by police and the legal profession. When defence lawyers showed women to be promiscuous, they were treated unfavourably, sometimes to the point of victimisation worsening the original impact (LaFree, Reskin & Visher 1985). In light of WWII evidence of the importance of supportive social locations (see Mereth & Brooker 1985), it may also be that women who have had many sexual partners tend to be from less sheltered and supportive backgrounds.

There is much evidence to support the argument that family and friends experience more stress and emotional damage than the belligerent and/or substance abuser (see Brownmiller 1976: 183-4 & 281 & Alcoholics Anonymous 1937, 2000). Work done in organisations such as Alcoholics Anonymous, Al Anon (for family and friends of alcoholics), Al Ateen, Narcotics Anonymous, women's refuges, rape crisis centres and women's centres show that these disproportionately male categories of behaviour have a major negative social impact (see Women's Policy Unit 1992 & Policy Unit, Office of the Women's Policy Unit, Queensland 1993).

The juvenile justice system, law courts and men's gaols are further examples of organisations dealing with problems which are predominantly male and to do with substance abuse and violence (see Eyland 1995 & Information Technology & Services Branch NSW Department of Juvenile Justice 1994/95). In my search, I found that within disaster literature, these predominantly male forms of stress are not classified as mental disease or a psychiatric disorder. However, once PTSD has been diagnosed, belligerence and substance abuse are recognised as symptoms that are subsets of the main diagnostic criteria (St John of God Hospitals n.d.). These loose connections of belligerence and substance abuse to trauma suggest PTSD paradigms only partially explain trauma.

The disorder has been found to fall within a varyingly significant and insignificant proportion of tail ends of normal curves plotting stress (Robins 1990: 1675). PTSD also appears to be common enough to be normal within some sections of society. On this basis, some practitioners problematised PTSD definitions. It was argued stress definitions were circular or tautological in defining an event as a stressor because it results in stress (Solomon & Maser 1990: 1626). While the idea of a stressor producing stress seems reasonable, it is problematic in mental health circles because of the appropriate/inappropriate disease debate. Here, many say syndromes and disorders are embodied by the unreasonable. Robins (1990) concludes a need for long-term studies of the general population before excluding mundane tragic incidents (like bereavement or retrenchment) as legitimate triggers of PTSD. Other researchers include the ordinary as a trigger. Susan Solomon and G Canino (1990) found disaster victims showed comparable levels of PTSD to others who had experienced trauma from more common events. Disaster victims differed in reporting more anxiety. Solomon and Maser (1990) point to the need to study those unaffected enough not to be diagnosed with PTSD. Beverley Raphael, Lenore Meldrum and AC Mcfarlane (1995) and Justin Kenardy and Vaughan Carr (1996) supplied further fuel to the PTSD debate with their critique of post-trauma counselling.

While military and emergency workers said they appreciated debriefing, uncounselled groups showed no difference to the counselled in stress recovery. One uncounselled group reported less stress, suggesting debriefing may diminish well being. Later research using larger samples concluded debriefing is ineffective with adverse long-term effects and therefore inappropriate for trauma victims (see Wessely, Deahl, Cannon, McKenzie & Sims 2003; Mayou, Ehlers & Hobbs 2000 & Bisson, Jenkins, Alexander & Bannister 1997). Debriefing almost tripled the chance of PTSD. Other research points to the preventative role of operational stress training for troops in military conflict. Although there was evidence of alcohol misuse, 106 returned UN peacekeeping soldiers were found to be PTSD free after receiving an Operational Stress Training Package (Deahl, Srinivasan, Jones, Thomans, Neblitt & Jolly 2000). This was despite one group's debriefing. Generally when discussions of belligerence, substance abuse, and domestic violence emerged in the literature, they were overshadowed by detailed quantitative analysis and debate over defining PTSD (see Green et al 1991 & Anderson & Gerenio 1994).

One branch of practitioners in this area normalises and/or denies the significance of more white masculine forms of stress such as the misuse of alcohol amongst UN peacekeepers, placing the brunt of the blame for not coping on women, people of colour or those who are considered effeminate by character and needing therapy, the efficacy of which has not been proven (see Kessler et al 1995 & Breslau 2001). This thesis will examine the accuracy of such assumptions. Feminist findings that femininity has higher risks than masculinity contradict arguments of innate female PTSD susceptibility (compare Morrow & Enarson 1994 & Sutton 1995 to Kessler et al 1995 & Breslau 2001). In the preceding feminist section, femininity emerged as a disaster in itself as women struggled against arbitrary social constraints in hostile white male hegemonies (see Enarson 1984, Russell 1984, Poiner 1990 & Morrow & Enarson 1994). The section on women and work showed more dimensions of the struggle (see Sutton 1995 & Williams 1989). More qualitative work is needed to inform inductive research so that quantitative rules for generalisability, reliability and validity are met (see the contradictions in findings

between Palinkas, Downs & Russell 1993; Green et al 1991; Green, Grace, Korol, Vary, Kramer, Gleser & Leonard 1994 & Connell 1987; Sanday 1984; 1984a & Stanley 1984b). Semi-structured interviews (and, to include those who will not acknowledge PTSD or are too inarticulate to describe their experiences), participant observation will fill knowledge gaps and investigate assumptions in previous findings (see Strauss & Corbin 1990: 62). While research on minority membership has been more sensitive to the struggles faced by disadvantaged groups (see Friedman 1998 & Allen 1986), people of colour have been problematised rather than the paradigms where they are seen as problems. Somehow, in their problematisation they became eligible to face more traumatic experiences than white men. This overview of PTSD shows a diverse range of problems with contradictory findings from *a priori* methodologies. I decided that within the complexities of human responses to disaster, the use of presupposed conceptual frameworks with set definitions and implicit assumptions would require extra sensory perception to avoid filtering and analysing data according to my presuppositions, adding to the large pool of research contradictions.

To avoid reproducing methods this thesis critiques, the often sharply divided epistemologies underpinning bravery inform data gathering and analysis. These divided fields have overarching gender themes; in mainstream disaster literature, females and their vulnerability to stress is the problem and within feminist literature, the problem is females' problematisation. Here, PTSD, the downside of bravery has become a focus rather than bravery itself due to a scarcity of scientifically assessed mainstream literature on bravery as a whole, underlining the importance of research with strategies to heighten sensitivity to data to more accurately understand this unknown area. At the outset of this research, the research problematic appeared to be populated by white men and women alone, hence the emphasis on white gender debates in the literature review. The field of bushfirefighting, with its radios, trucks, water-bombing helicopters, flashing lights and sirens is a white man’s sphere; women are in the minority and Indigenous expertise unacknowledged by

bushfirefighting services and elderly informants, as was Indigenous loss of lands they once managed.

Filling gaps and correcting fallacies with an inductive approach raises the profile of the racialising and gendering of bravery and bushfire mitigation. This contextualisation is necessary because the value loaded nature of bravery and bushfirefighting requires a means of heightening sensitivity to the data, which could not be provided by questionnaires alone. The next section introduces the location of this thesis's volunteer bushfirefighting fieldwork, a hamlet in eastern NSW. Elderly informants and historical records provide a history of the area and its gender roles. In the bush culture of Arrawonga, men were the breadwinners, mainly as miners, tradesmen and timber cutters. Unlike the Cessnock networks, ideas on women's emancipation were rare. There was an insistence on a feminine role as a bushfirefighter *only* in emergencies *and* as an adjunct to men. Aborigines ran an even poorer second with vague descriptions of their historical presence, but only with prompting. Indigenous Australians' plight in shanties by the railway in the early days was not described as tragedy or the loss of Indigenous knowledge of bushfire mitigation regretted.

The hamlet is east of mountains and at great risk from fire tornadoes sweeping in from the west, but old-timers' accounts describe bushfires as problems emerging in the late 20th century. This was despite there once being an intense human interface with forests. With bullock carts and horses for transport along rutted clay roads, wildfires moving around 10 to 20km/h would have represented almost certain death and devastating financial losses for this poor community. White men worked right through the bush in hard and dangerous work. Many towering trees were around 100m tall and 10m in diameter. Only their photographs and antique timber artefacts prove their existence. In conditions where human life was of little importance white men mined, farmed, felled timber and built roads and railways. Women toiled at poorly paid domestic work prior to marriage and then toiled in their homes. They faced similar risks to men; childbirth once claimed about one in three. Apart from escalating bushfire risks, social change brought safer lifestyles in the mid 20th century. With the occasional crow of a rooster, its horse paddocks and cottages, Arrawonga's landscape has changed little since its founding just over

a century ago. Most of the 200 or so houses were built at the turn of the 19th century or in the prosperity of the 1940s to 1970s.

CHAPTER THREE

3.1 The pioneering history of Arrawonga from 1881 and its extensive human interface with the bush…

As scenic as a postcard, the sleepy hamlet of Arrawonga sits in a hollow, surrounded by bush and verdant horse paddocks. House blocks run to several acres with chicken sheds and remnants of post and rail fences. Cottages have flower gardens, sometimes with neat rows of vegetables, and sometimes chickens. Plump horses and the occasional cow munch the thick kikuyu grass. Historic town plans still dictate fence boundaries and some streets. Arrawonga is a few minutes drive through bushland to the shores of Lake Macquarie. Highlighting the division between Victorian bourgeois government architecture and Arrawonga's working-class, the most imposing buildings are three historic government buildings: two railway homes (which are restored and privately owned) and the primary school. Although early housing was Spartan, the area has a long tradition as a buffer against the socio-economic impact of low paid and erratic work. Cheap, fertile land allowed families to keep livestock and grow fruit and vegetables. Brick and tile houses are rare, and, unlike many areas in the Hunter region, there are no new McMansion subdivisions for the upwardly mobility. Despite the Hunter's closeness to Sydney, intensive European settlement was late because the area was considered dangerous until its closure as a convict holding centre (Clouten 1967: 12-13).

3.2 Arrawonga's Unique Origins

Before the 1880s, a small population lived around Lake Macquarie, relying on sailing ships for transport to Sydney. Incomes derived from timber, shells from Aboriginal middens (to be made into lime for mortar), coal, staghorn ferns and farm produce. In 1881, a handful of freed convicts and other men settled Arrawonga, labouring and cutting timber for the northern end of the 160 km Sydney to Newcastle railway (see Saxon 1988: 6). Crown land was declared for them to camp, forming the hub of a sprawling mainly white male tent and bark hut city. Land was acquired by squatting until 1894, when Arrawonga was proclaimed a village, its first plans drawn up and a government auction held. About a third of the lots sold. Expectations exceeded Arrawonga's destiny. Bush covers the street boundaries of much of the first town plans. Only a

tenaciously maintained but uncongregated building remains from the god fearing's toil to establish a church.

3.3 Traditions of Church and School

Sunday school started in 1888 at the home of Sydney and Harriet Hill. In 1897, land was bought for a Union Church by four of the village's leading male citizens. In 1898, a Hill family member built the first church of slabs, three Arrawonga matriarchs told me proudly over lunch, which I provided to repay them for their time as informants. The church is unusual as it still has the potential to hold services of any denomination. While many churches started in this way in Australia, most have been taken over by one denomination. The pews of the tiny Union Church were taken from the slab original but unused by a congregation since the late 20th century. Attendance at the Hardyplank reclad church dwindled to about half a dozen elderly people, and Sunday services ended with a new and homophobic young minister. He exhorted his flock to form an anti-homosexual lobby. Homosexuality was regarded with discomfort but acceptance and the matriarchs and patriarchs would not ostracise gay relations. Attendance became so low, the church closed. Opened in the same era as the church, Arrawonga's small primary school still operates.

Sir Henry Parkes made primary education compulsory in 1880 and a school a legal right of any community with 21 children of school age. Arrawonga's population dropped dramatically with the completion of the Sydney to Newcastle railway in 1889 (see Saxon 1988: 13). About 80 mainly white male wage earners remained, depending mainly for their living on timber cutting or small-scale mines known as rat holes. In 1890, in a letter to the Minister for Education, 21 school-age children were listed. In 1891, a splendid cream brick school was built. Early photos show a series of grim-faced women teachers with often barefooted students.

3.4 Female Teachers' Miserable Lot

Until 1913, Arrawonga Primary School had five female teachers, the first gaining a transfer after 10 months. In these early years, an appointment to the school was calamitous (see Saxon 1999: 6 & 22-4). Professional employment was unusual for women, and, apparently not tolerated by the community with its patriarchal Methodist and unionist traditions. Despite her numerous requests, the second female teacher gained a transfer after five and a half

years. After her appointment in 1892, she described life as unbearably déclassé and hard. In letters to the Education Department, her beautiful florid pen strokes told of conditions in the then depression time as ruinous to her health (see Saxon 1988, opening flyleaf). Her house in Arrawonga had a dirt floor with walls and roof of crudely aligned slabs. Winter in the hamlet is cold as it is at the foot of mountains and the huts were notoriously draughty. A headmaster's daughter, she grew up in a middle-class environment in Sydney and lacked the resilient physique sustaining the locals. More than likely, because of her middle-class background, she would have worn a corset that made breathing difficult and gave her poor stamina. She moved to the closest town to board in more comfort but lacked the strength to ride 4.5 kilometres twice a day on horseback. Her mother wrote to the Department of Education describing a most terrible scene of her concussion after fainting at school (see Saxon 1988, back flyleaves). Parents requested the removal of the third, fourth and fifth teachers, who were all female (see Saxon 1991: 6 & 22-4). As late as the 1920s, Emily, one of the three matriarchs, recalled that "nobody considered the idea of women working. In the early days you just looked after your home and kids." By their accounts, sometimes Arrawonga women supplemented their income, but their earnings were never considered to be worth that of men's. It was common for married women teachers transferred to such rural areas to support their husbands financially, making these non-stereotypic women unpopular (see Saxon 1991: 17, 23). The last of Arrawonga's five early women teachers, Mrs Victoria Black, supported her husband when he could not find labouring work.

In 1913, a lobby for the purportedly superior standards of a male succeeded and Harold McDonald took over until he left nine years later at 65. Mrs Black had shown no concrete signs of poor teaching and, at 60, when she retired had an otherwise unblemished record. Emily told me her sister had complained Mr McDonald used to run his hands over some of the girls' legs. The 188 cm tall Mr McDonald frequently caned his 50 students, which brought him respect. Parents had complained about one previous woman for caning and about another because of her age. Two male teachers before Mr McDonald had no

complaints. Added to the lack of evidence of female teachers' shortcomings, further developments suggest gender bias not an unreasonable explanation.

Once Mr McDonald was installed, letters to the Education Department showed a new community desire for structural improvements to the school (Saxon 1991: 24). The Arrawonga Parents Association tried to bring many of these changes under false pretences. In his venerated position as middle-class white man, Mr McDonald corrected these without protest from the community. Worldviews giving McDonald such status were a greater catastrophe for Indigenous Australians than white women.

3.5 A Worse Fate for the Aborigines

At the time of my fieldwork, no one admitted to Aboriginal ancestry in Arrawonga, although Cherie Hill, a firefighter, said mystery surrounds the dark complexions on one side of her family. Emily, Cherie's aunt, said she searched the archives and found no Aboriginal descent and credits the olive skin and hooked noses to Arabs who traded in Lake Macquarie. At Arrawonga's founding, on the other side of the railway tracks from the school, local Aborigines inhabited a shantytown. A few records describe the Indigenous population's change from a happy and friendly clan of over 100 to a stressed little group prone to drunkenness and violence. Awabakal numbers around the lake dwindled from over 100 in 1821 to 65 in 1828 and to 26 in 1840 according to Turner and Blyton (1995: 33). Native shanties clustered around what is now an abandoned and overgrown cricket oval (see Turner & Blyton 1995: 10-51). One informant, an Indigenous elder from the Biripi clan from the Forster and Taree area to the north dismissed Turner and Blyton (1995) as "white man's history… written words of a male elite".

Aborigines did not die out so dramatically, according to Jennifer Morris. In her understanding from oral history, the Awabakal were unlikely to contact Europeans once they realised the risks. Her voice rose with indignation over claims her ancestors would stay in a place where their lives were in jeopardy. There were far more than 100 and most departed to safer ground such as the territories of the friendly Biripi or to the Watagans. Those who remained faced death from European illnesses and brutal raids from escaped convicts who

carried off their women. There were also the dangers of poisoned flour and stolen children. The formation of the so-called Aborigines Protection Board (NSW) in 1883 brought imprisonment on reserves or missions on a diet of flour, sugar, tea and a shred of fatty, salted meat (see n.a. 1938b: 2 & n.a. 1938c: 2). Indigenous diets prior to this had been abundantly nutritious. As early as 1830, the Awabakal and other local blacks pitched bloody battles against the settlers. There was a circular form of Indigenous trade in the region, which went as far west to include the tall, heavy set and vicious Wiradjuri from the Tamworth area. These people combined to battle the whites along the Hunter River. Some Awabakal also joined Biripi resistance fighters around Taree. Many sought refuge in Dr Lancelot Threlkeld's mission at Toronto, but by 1900 had almost vanished, some forcibly moved, others fleeing and others dead (Southlakes Christian Women's Group Wangi Wangi, Lake Macquarie, NSW 1988: 5). Less extreme injustices emerged from informants' descriptions of tradeoffs in white women's destinies as wives and mothers. White culture made it reprehensible for white women to earn incomes comparable to white men's, especially if they married. Safety from the ill health characteristic of low earnings offset women's lesser power and status.

3.6 Employment, Affordable Land, Better Food and Health

The early years were difficult by today's standards, but as most early settlers came from extreme hardships of poverty or life as a convict, Arrawonga offered land and good food. Instead of the grey streets and poor fare of Sydney with its likelihood of diseases like tuberculosis and pneumonia, there was fresh milk, cream, butter, fruit, vegetables, eggs, fish and meat. Even in the mid 20th century, Arrawonga continued its tradition of alleviating the impact of low socio-economic status. After living in the Rocks, Sydney, another old lady remembered her life taking a turn for the better when she moved there in the 1960s. This relative newcomer described her husband as "a hard man who drank" before the shift. There were no hotels in Arrawonga and its tradition of a day's labouring followed by work in the garden and then cricket provided the impetus for her husband to drink less and her marriage improved. The population had a strong commitment to church, temperance and family.

Men of sober habits with activities such as gardening made life easier for families for reasons other than the linkage between heavy drinking, depleted pay packets and domestic strife. Until the 1950s, wages were low and erratic, making garden produce and livestock essential for a good diet. Fortunately, the black soil is fertile and old photographs show sturdy men, women and (usually bare-footed) children. As far as food went, they lacked nothing, and surprisingly, the high-fat and meat diets were conducive to longevity. This was particularly noticeable amongst men who tended to far outlive the then national male mortality rates if they were not killed in accidents like mine collapse or overturned bullock wagons carrying giant logs. My informants described early years where they had clotted cream and women competed over who made the best gramma pumpkin pie. There were harvest festivals where money was raised for maintaining the church. Later, in 1947 financial assistance from the Joint Coal Board and a £100 interest free loan from the Arrawonga Miners' Lodge paid for a new community hall. Harvest festivals had competitions for the most beautiful arrangements of fruit and vegetables and people brought cakes and other treats to sell or give to others. Three of my elderly informants said in chorus (unprompted) how happy their childhoods had been.

3.7 Accounts of Golden Years

The bush had far more staghorns, grasstrees, orchids and native flowers than it does now they told me. Except for the angophoras or red gums that are too twisty to be useful for timber, there are now few stately trees. Towering cedars, blackbutts and iron barks were once commonplace, but slowly disappeared with logging for furniture, buildings, railway sleepers and pit props in mines. Today, most of the bush is scraggy, thickly packed with suckers (i.e. young gumtrees) and difficult to walk through. But, in the old days there was plenty of space, my three widowed informants continued. They remembered as girls successfully beating out bushfires with wet sacks or bunches of leafy branches in Christmas holidays. There were stories of leaping from the table during Christmas lunch to put out a fire and then going back to table to finish their meals. Many children had horses and made billy carts from scrap timber with pram or iron wheels. Children were seen and not heard at the table. These days they "did not know what the world had come to"... and "they had thrown away the mould that made boys." Girls too got the cane, and the old ladies

agreed, "a little bit of discipline did not hurt". Stories of harsh punishments and hardships such as stints in orphanages after mothers' deaths in childbirth were common amongst old-timers from around Lake Macquarie. In the old days in the Hill family, girls did more work around the home than boys. When I asked the three widows what the boys did, they said they could not think. I prompted with "chopped wood?" and they all said yes. Later Emily's brother appeared and we asked him. Chopping wood, trapping rabbits and killing chickens were the activities he gave; the rest of the work was for the girls he said with a laugh. Girls were allowed the freedom to roam, said the old ladies, leading the conversation away from gendered labour divisions that might tarnish the "golden days". Emily and her friend Joan Baker both had horses, Emily's a palomino, and the two would ride through the bush picking Christmas bells and other wildflowers that once grew prolifically. A boy's vicious goat was a source of humour.

Ruby described her future husband as a scallywag who rode to school in a small cart drawn by a billy goat. Bluey and his billy cart were a great source of amusement and terror for the other students in the 1920s. Bluey used to get the goat to chase people he did not like. He would tie it outside the girls' toilet so they could not go inside and once he got it to attack a teacher who had caned him. One draught horse, which pulled timber pit props, would play at the sight of the goat. Ambushing this horse was a favourite diversion for Bluey. The horse's owner would swear and bellow for the goat to be taken off the road. Later, in adulthood, this cruel boy proved a stable earner and this was so important that the three widows portrayed his cruelty as humorous larrikinism.

3.8 Early Adulthood in the Golden Years

Women tended to marry at 17 and have 10 children, according to Emily, Sarah and Ruby. During their childhoods and early married lives, 14 hour working days were not unusual for adults of either sex they said, contradicting earlier claims of a lack of knowledge when I asked them what boys did. They could only recall two women working once married. One aunt ran a dairy employing women as dairymaids. Emily worked for her briefly, but left after being verbally abused. "Old women were a lot crankier in those days," she explained. Sarah's mother supplemented the family income by cooking lunches for railway workers

when Sarah was still at home. Until the late 20th century, ideas about female emancipation were unheard of they told me when I asked. There was a tradition of young couples living with an older, settled relative.

In the 1930s, Emily and her new husband Neville lived with Maureen Hill, her mother-in-law and saved for a house. This was bought from Emily's aunt. Emily still lives there. The house had a wrought iron front veranda added in the 1960s and has been reclad in Hardyplank. Emily's niece, Cherie Hill, fondly remembered her early years saving up for a home before she married her former husband. The newlyweds had also lived with Maureen Hill. Cherie remembers these years as happy because her aunt had such a pleasant personality. The future was full of promise. Cherie worked as a bookkeeper and once married, dropped any notions of having to provide for herself financially... at first.

In her 50s she described this earlier era. "You didn't know any different in those days. You just got married and that was it". She talked bitterly about her youth when a career for women was not yet an option. She often expressed a sense of "just missing the boat" when it came to opportunities and fulfilment. A sister who was 13 years younger, accessed new opportunities. She became a schoolteacher, and now goes to the opera and takes interesting holidays with her computer analyst husband. Cherie had become a firefighter to try to develop a common interest with her husband and two sons. Her attempt to mend her marriage did not succeed, but she remained a firefighter for some years. During the time of my fieldwork she had to give up home ownership in her divorce. She described leaving secure work with a government agency after too many jibes for being "just a cleaner". Later, Cherie landed work as a teacher's aide in a local primary school and for once, her life seemed to take a turn for the better, as she seemingly reached the goal of a better career. Her youngest son had also improved at school and life was full of promise. In early 2001, Cherie's dream of a better career proved just that, a dream. There was a flood of women retraining through job assistance schemes to be teachers' aides and she could not get enough work to make this area worthwhile. She took an offer of longer hours in a local electrical store. She held few hopes for

marriage as a means to improving her lot so finding a new partner was not high as a priority. Shop work proving too boring, she decided to return as a teacher's aide and the constant strain of making ends meet on a casual income that dried up in school holidays.

By contrast, the accounts of widowed informants between 70 to 90 years of age revealed lives tenaciously preserving married life for material and (implicitly) psychological reasons. "If you walked out in those days (up until the 1950s) all you were entitled to was the sewing machine," Emily said. When I asked old-timers in their 70s to 80s for further explanations of events describing arbitrary divisions of power and resources, typically they insisted the past was a happy, if Spartan age. The present was a time of neuroticism and too many choices. The necessity of keeping to a marriage was said to bring a certain mental strength. "That was the way things were. There was no choice, you just had to do it. But... (Emily trailed off, gazing distantly). We were happy then... You (i.e. married women) couldn't leave home, even if you wanted to. People just had to stick together." She did not leave her children untended until her oldest, Paul, was 15 when she went to a housie night. The next morning making his bed, she found a knife under his pillow and decided not to leave him alone again because he had been frightened. There were connections with first wave feminist criteria for choosing a good husband. It was up to fate, and there was little variation in men to make considerations of choice important as "sometimes they were good and sometimes they were bad". Emily remembers a night when she threw something at Neville when he came home drunk. He retaliated by emptying a corn sack of Weet Bix on the floor. Occasionally, she did not speak to him for a fortnight, but they "stuck together".

Pleasant recollections far outweighed such references to bad spots in marriage. In the early years, the pair went by horse and spring cart to see silent movies at Brigalow. "That would have been lovely, under the stars" I enthused, as a horse lover. "Yes it was," Emily smiled. With no hotels, leagues and workers' clubs, the area was described as far better for entertainment than in the early 21st century. Silent movies were shown at the Arrawonga community Hall and at Wangi Wangi. Emily and Neville also went to dances with live music for a shilling. Usually jazz or old time waltzes played on a piano and drums. For

the Christmas holidays, Hunter mining communities had a tradition of travelling by bullock wagons to the lake's edge at Wangi Wangi.

3.9 Holidays on the Shores of a Lagoon at Wangi Wangi

Wangi is an arm-shaped peninsula pointing northeast from the western side of Lake Macquarie (which is in reality, a giant lagoon). With long northeasterly and northwesterly beaches, it catches either the cooling southerly or northeasterly winds characteristic of midsummer. Canvas tents were pitched there each year to feast on the sweet prawns and fish. Today, the lake's fish stocks have dwindled so much, feasting is hard to imagine, but numerous old-timers said there was once as much as could be eaten. The tradition of holidaying there with a network of friends and family continued through until the 1950s.

Thousands gathered for the six-week school holidays. In the 1950s, Wangi residents successfully lobbied to have the flood of campers stopped because of the problem of overflowing and illegally emptied dunny cans. No one is sure when the tradition of this holiday began, but elderly informants in their 80s remember it as established custom before they were born. There was a carnival atmosphere, which in the early 21st century, has vanished from the sleepy backwater. The hotel and the fish and chip shop had customers pouring out onto the footpaths. Circus people came with a sideshow that sometimes included a merry go round and a shooting gallery. One of the favourite entertainments was a chocolate wheel run by St Johns Ambulance. Because sharks were a problem, large swimming baths were built to protect swimmers. The Hill family and friends built one on their camping spot in front of the home of the artist, Sir William Dobell. The family also had an alternative spot that was more sheltered from southerly winds. Many of the Hills were friends with Dobell and he is said to have sketched one of them, but the drawing has been lost.

In the early 20th century, the Hill's tents had dirt floors, later followed by hessian or canvas and then wooden platforms. Travel gradually became more comfortable as transport to Wangi moved from bullock teams (in their early childhoods) to horse and cart, then sulky and, by the 1940s, one or two families had cars. Emily remembers an old Dodge utility she and her husband owned. "He never had a license and one day he drove with the hand brake on to visit

his mother in Dora Creek." Because the public toilets were only emptied once a week, the Hills had a portable dunny can in a cubicle swathed in hessian. In the days when they travelled to Wangi by bullock cart, most men supported their families cutting timber, which was very poorly paid. When they moved to horse and cart, men's work was usually in the pits and better paid. The miners had three weeks' off, returning to work half way through the school holidays. Wangi's close proximity to mines and the bush made it possible for the men to travel to work from the camp.

Until the 1950s, money was scarce because there was no holiday pay. Holidaymakers were usually broke the week before the men went back, and lived from each other's gardens, the lake's fish and damper cooked in camp ovens. About once a week a few members of each family would travel back to Arrawonga to gather produce and check on animals and property. Having no money was not recalled as a hardship; a regular on the Hill menu was fried flathead fillets and homegrown tomatoes with damper. There was a concerted effort to be out when the council rent collector came around for camping fees. Assisted by men and children, women cooked on cut down steel drums, with holes cut in the sides. A kettle and a camp oven were hung across the top with heavy pieces of timber. Perishable food was stored in lidded wooden boxes, which were replenished by an iceman. Emily's son Jimmy enterprisingly befriended the local fishmonger and the two would motor around on the lake selling iced prawns. Jimmy did not get paid for his help, but he was allowed to eat prawns. Friendly relations also existed with the local cinema owner, John Weller.

Mr Weller had worked at the Arrawonga railway station where he met and, in 1929, married Leah Hill. Because of their close family ties, the Wellers allowed the Arrawonga community to run their own pictures. Jimmy remembers waiting for cues to come up which let them know a reel change was due. The Wellers progressed from the local cinema at Wangi to owning a theatre in Newcastle, which they bought in the 1950s. Both had long careers in live musical theatre. Mr Weller started a musical troupe in 1938 called the John Weller Players and was known for a larger than life sense of humour. Leah in her late 90s, is still

known for her dry, rather cutting wit. She is unusual amongst women of her era from Arrawonga as she worked as a costume mistress for about 45 years in her family's various theatrical concerns. All of the Weller children were involved in the theatre when they were young but their daughter Betty Francis is the only one to have carried on the tradition. Betty met Drew Francis in the theatre and they own a cinema still operating in the Hunter. John Weller and Associates is one of the leading law firms in the region. Social mobility was also reflected in gradual improvements in women's domestic work.

3.10 Women's Work in the Golden Years

Before the 1940s, my three widowed informants performed very heavy and complex work. "You made every stitch you wore", said Sarah Hill. Helped by older daughters, most Arrawonga women reserved special work for each day. Monday was washday. Girls learnt from their mothers how to boil up clothes with soap cut from large yellow bars and to scrub using washboards. This was hot, hard work which took all day because families were typically large. Women and girls used long sticks to stir clothes bubbling in kerosene tins. These perched precariously on bricks over a fire at the back of homes. The water was drawn from wells. Clothes were wrung on a heavy mangle and whites rinsed in water tinted with blue. Women were described as priding themselves on their spic and span homes.

While clothes were drying, there were cleaning jobs such as blacking iron fireplace grates or whitening the bricks around the chimney. When the clothes were dry, they were damped down and rolled into bundles. Some items were starched. Several irons weighing around four kilograms each were heated on the stove and nearly everything was pressed. Ironing often continued into Tuesday. A pile was made of everything needing repairs. In Emily's case, Tuesday was also set aside for sewing clothes. For Emily, Wednesdays and Saturdays were for baking things such as cakes and pies. Fruit for pies and puddings was gathered from their trees or swapped for something else with neighbours. Loquat and gramma pumpkin pies were remembered as the best. Floors of wide hardboard were sand soaped, scrubbed with a brush and rubbed with a stone. For the family to bath, women and girls heated and carried water

to tin bathtubs, which were in front of a fire for warmth. Water was often scarce, depending on the level of wells and bath time was usually weekly.

An aunt also did more traditional men's work such as painting roofs, growing fruit and vegetables and killing chickens. Nor was paid work entirely frowned upon they said. However, women did not do this a great deal. In jobs like working in a bank, they had to leave if they married, according to Helen, who moved from Sydney when she married a young Hill shortly after World War II.

> When I was working (in Sydney before the move to Arrawonga) I was not old enough to get married so it didn't worry me. But there were a lot of people who it worried because they got married and couldn't work and they had families... Getting a local job at Brigalow was hard because women hung on to work once they got it and there was only a steam train and a bus to get there.
> (My bracketed insertion)

This, Helen said, did not worry her as unemployment was "accepted for women". Considering the magnitude of female domestic work in Arrawonga, it is hard to imagine how a family would cope if a married woman did much paid employment. In light of the grind of long hard hours of work, unlike other old-timers, it was important to Helen for her children to get an education. "Once I had my children, I drilled it into them and it helped. They were all good at school and they all became professionals." Her mother visited her constantly as an added support in her marriage. When I asked her why she thought so many contemporary marriages failed, at first she said she did not know and then: "It may be because people don't have to put in the effort these days". She described early times both in Arrawonga and Sydney when people were closer and more interdependent… less replaceable with services such as takeaways, automatic washing machines and television. Memories of hard times of the past revealed strategies that left people wanting for nothing in the delicious meals they ate.

3.11 Living Well in Hard Times

The 1930s of these three widows' teens brought widespread unemployment with the closure of mines and sawmills. Many moved in and out of work.

Nevertheless, these women assured me they always had plenty of good food and they married men in continuous employment. During the Depression and ensuing war years, they exchanged government coupons with the local stores at Brigalow for staples such as sugar and flour. They kept greyhounds to hunt kangaroos for meat and their skins. Most families had at least one cow, a pig, poultry, fruit trees and a vegetable plot. Breakfast was bread and milk, semolina, porridge or Weet Bix. Lunch and dinners were generally meat such as corned beef with white sauce, stew or sausages with four vegetables. Old milk cows were sold to the butcher and corned. Emily remembers her husband selling a cow she was fond of. She banished corned meat from meals for two weeks in case her family ate her. Roasts were for special occasions and roast pork was the Christmas specialty. Accompanying the nutritious fare were vegetables... cabbage, pumpkin, potatoes, lettuces, tomatoes, broad beans, peas, carrots and always corn. The women described an old fashioned variety of red apple, which keeps for months and cooks to a fluffy consistency for pies. A tree still survives close to Emily's home, but requires spraying these days; back then there were no fruit flies. There were also sun-ripened apricots (which "were nothing like the varieties in shops today"), pears, quinces and peaches. Desserts appeared at lunch and dinner and were mostly steamed fruit puddings with custard.

In the old photos, most Arrawonga women looked either burly or sinewy on this substantial diet and heavy work. It was only with their last children in the 1940s that two of the women went to hospital and had anaesthetic. Until then women either went to a midwife's house or she visited them. The only relief from pain was to pull on a twisted sheet tied to a piece of furniture. A midwife smacked one of their female relatives with a rod on her bottom because "she carried on so much". Evidently, the smacking stopped her carrying on. These women said having babies was a job to be got over with minimal fuss. This advice was passed on to their daughters. Two of the women had lost a child and their families ranged in size from four to six. When I said they must have been healthy, the three widows laughed, saying you had to be healthy and that was it. This family single mindedness bore fruit with over 70 first cousins on the Hill side. A count in 1977 yielded about 900 Hill descendants. The hard work and

plentiful food had its attractions to outsiders. Helen left behind well-paid work and city conveniences to marry into the community.

3.12 Arrawonga as a Hedge Against Low Socio-economic Status

Her move to Arrawonga brought a harder life because she left behind flush toilets, enamel bathtubs, coppers, gas hot water, stoves and running water. There was also hard domestic work, an end to freely available, well-paid employment and less public transport. Losing these was overshadowed by the small community's social life and its abundant food she said. She grew up in Bankstown and later Newtown with a father, who she described as, even for those times, overly authoritarian and domineering. He used a shaving strap for discipline. He did not believe their explanations when accidents occurred and unjust punishments were such an unpleasant memory, Helen changed the subject. Another facet of her father's character was an advantage in her move. He was a member of the Communist Party and could talk for hours about Russia where he thought there was more equality and better living conditions. With similar staunch unionist beliefs, Helen had a lot in common with the Hill family.

For man or woman, she left well-paid employment in the Wynn's chocolate factory in Australia Street, Newtown. "I could clear five pounds a week in 1945 and 46." Her work in the chocolate factory was the best job Helen would ever have. Shop work for a woman averaged about 22 shillings and sixpence a week, which was just under one fifth of Helen's wage packing chocolates, but was considered by most to have more class. Helen described shop work as demeaning. "I hated serving". She was paid at Wynn's for the volume packed. As it was a battle against the clock, she said she never found it boring. Employment was easy to come by because so many men had gone to war.

Her father had gone away to fight, temporarily ending an atmosphere of fear at home. Going out with men was something he had forbidden and, as these years were the final stages of Helen and Priscilla's progression to adulthood, they made the most of them. Helen used to do roller skate dancing, hike in the National Park and go dancing. Swimming was her particular passion, and old black and white photographs at ocean baths and beaches reveal a woman

resembling a movie star in her 1940s one piece. Asked why she left this life behind, at first Helen said she did not know and then laughed. “I must have been in love with Lance, but no, don't let him think that". Food was better in Arrawonga she said, still laughing, as there was very little variety in Sydney’s war years.

> I can remember in the 1930s when we were kids. My mother would give us a shilling for a quarter of a pound of butter, a pennorth of milk, a tin of sardines or baked beans and a small loaf of bread.

Helen's standard lunch menu contrasted with Lance's memories of abundance. One of his lunch favourites was clotted cream piled thickly on bread with homemade jam. Helen remembers her mother buying the smallest size in everything and having almost bare cupboards. She first met Lance when she visited Arrawonga as her sister Priscilla's chaperone. Lance was 15 and "he was a cranky so and so", but on a later visit Helen's impression of him improved. Helen and Priscilla's subsequent marriages brought "new blood" to Arrawonga she said humorously. There is a long-standing joke about the problem with three-eyed offspring in the community due to inbreeding. The couple did not eat out until the 1950s to celebrate one of their son's 21st birthdays. "We survived, we had to" Lance and Helen explained.

3.13 Early Married Life, Home Ownership and Children

Both Helen and Lance (food aside) remember these years for the lack of goods available. Helen had few clothes because she did not have the coupons to buy them. Until the 1950s, there was no power or sewerage. For Helen, leaving behind her earning potential in Sydney meant Lance became the breadwinner while she battled the lack of modern conveniences as a young mother. She recalled being pregnant and hanging down into the well to bail out yellowish water, which stained her children's nappies in the wash. Arrawonga also had its advantages. Unlike the late 20th and early 21st centuries, home ownership was attainable for couples where only the husband was employed. Home ownership was something Helen's parents had never been able to afford and that Helen never described as a possibility for her in Sydney.

There were also the advantages of a large, closely knit family. Everybody was family she said. She borrowed her wedding dress from a cousin of Lance's, “a beautiful dress of embossed satin, with a pleated sweetheart neck and a train”. The veil was net, lace and embroidered lace around the edges. To save for a house deposit, Helen and Lance lived with Lance's mother Maureen Hill. Their new house cost £900 and in 1952 they borrowed the money from Lance's uncle, Monty Hill, at two per cent, reducible. Lance described a relaxed and trusting relationship with Monty. "He just said, well you can pay it monthly. You work it out in a book. He gave me a book and said you bring it down and I'll sign it." In those days Arrawonga was described as a community of extended family and anyone could walk into anyone's home at any time. Children were given meals in whichever household they found themselves.

3.14 Men's Work

Men were described as working very hard in extremely dangerous conditions. During Sarah, Emily and Ruby's childhoods, their fathers were timber cutters, two having bullock teams. Cutting trees was done with axes, saws and adzes. Axes and handsaws were used into the 1950s, despite the development of the chainsaw. Bullocks pulled felled trees with heavy chains onto the wagons. Stakes put in at the sides of logs fixed them in place. These loads went down rutted tracks, which, with the heavy clay soil, were slippery in the wet. Logs about the thickness of one or more telephone booths could shift, wagons overturn and men lose their lives, pinned under vast weights, miles from help. Sarah's father was in partnership with her Uncle Castor, but sold out his share because he jokingly said he could not swear hard enough to drive the bullock team. Their fathers never swore at home and surprised Sarah and Emily when they first saw them with their bullocks; with the "air turned blue" around them with their oaths. In the 1940s, Arrawonga men moved from timber cutting to work in coal mines, risking pit collapse, poisonous gas, water leaks and an almost inevitable lung cancer from long years of inhaling coal dust. Accidents taking many lives were common in these rough mines where human life was considered of secondary importance. Coal was cut by hand and hauled to the surface in trucks pulled by pit ponies. Until the end of the last century, BHP was another source of employment where Lance began his working life.

He started with BHP in his teens in the 1930s. Waking at 5am, his mother Maureen so doted on him, she had breakfast ready, toothpaste on his toothbrush and his bicycle's tyres pumped at the gate. He bicycled to Brigalow where he caught a steam train to BHP's Newcastle site. He did dangerously, hard, hot work pouring molten metal into sand box moulds. Until his apprenticeship ended, he would get home at 10pm three nights a week after technical college. As his mother's attentive care suggests, men's work held more status in the paid workforce than women's.

3.15 Gender Spheres in Wages

Young men's employment was of a far higher economic value than the two hours here, two hours there available locally to their future wives. Leaving school in their early teens, Emily, Sarah and Ruby earned around seven to eight shillings a week cleaning homes. They would bicycle or walk to nearby towns about five kilometres away for their rounds. Parents watched adolescent girls carefully and restricted roaming the bush and games in billy carts. "I was 17 and I was out with a bloke and at dark you could hear my Mum screaming for me over the whole of Arrawonga. Well, you can imagine how I felt!" Emily said laughing. Sarah remembered her mother playing the piano at community gatherings and keeping an eye on her in case she disappeared outside.

Notwithstanding, both fell pregnant. One recalled telling her boyfriend the news. He asked her father for permission to marry. Listening from the next room she thought, "good on you, there's not many that would have done that". Pregnancy was not only dangerous from a medical point of view, but many men "couldn't care less in those days" explained Sarah. Considered different to "having to get married" they continued, were "shotgun marriages" where men were forced to the altar. Sometimes they managed to escape. This could bring disastrous consequences as the burden was placed on the woman's family and/or her meagre earning capacities. There were "skeletons in the cupboard" in a lot of the old families, but no one was left abandoned they reassured me. Once my informants were ensconced within their marital walls, none pursued the idea of employment; their new husbands earned about nine times as much as they could.

Wives managed the three to three and a half pounds a week pay packets, autonomous within their domestic realm. At one stage, one husband was on a sanitary cart, which paid very well to compensate for the unpleasant work; another was a hostler at a pit and another a butcher. Marriage to a butcher brought considerable benefits before refrigeration. Sarah's husband slaughtered, dressed and delivered meat by horse and cart. If money was not forthcoming, ordered meat would not be left and her family got many a choice cut. In 1948, town water and electricity were laid on and the Arrawonga State Mine opened. The Arrawonga Colliery, as it is now known, brought international attention. Compared to the former rat holes with their dangerous construction, it was one of the safest mines in the Hunter region prior to its closure. The criteria for records of workplace safety do not include death from "miners' lung" or silicosis, which causes lung cancer in miners, even today. Lung disease persists as a problem because many workers ignore safety regulations and work without dust masks, complaining the heat of underground work makes masks uncomfortable. The colliery was the Southern Hemisphere's most productive for several years, providing more secure and more lucrative employment for men. It closed in 2000.

A year after the opening of the colliery, another source of apparently improved, predominantly male employment began with work on Wangi's coal driven power station. It was a huge employer, with around 200 men per shift. Men were exposed to high levels of asbestos, which was used as insulation to wrap pipes carrying hot water. Old-timers say they were not warned of the danger and many received compensation before they died of cancer. The quickest to die from asbestosis were the laggers whose job it was to break and replace asbestos casings to repair pipes. In 2001, at a funeral of a former lagger who died of cancer at 66, one of the rare survivors recalled the routine of air hosing asbestos dust off their clothing before they went for their meal break. "The air was full of dust in the room, you could see it". He too has been tested and found likely to contract cancer. The appearance of improvements in lifestyle was deceptive for women too. After years of shaking her husband's clothes for the wash, his wife was also advised she was at risk. She decided not to have tests to confirm an almost certain prognosis. The time wives began their

exposure to asbestos was also marked by the introduction of piped water, power and new gadgetry.

Water no longer had to be hauled from wells and fires tended to cook and heat. Refrigerators, at first run on kerosene and later electricity, meant butter no longer needed storing on a rope in a well, or bags kept wet around Coolgardie Safes. Even the old coppers (which had fires lit under them to heat water to laboriously wash clothes) were considered wonderful labour savers when compared to the kerosene tins on bricks or chip heaters previously used to heat water. New wealth brought the 1940s and 50s style homes (which proliferate today) and far more comfortable living. Being in a slight basin made the draughty old slab homes cold in winter. Large families were packed in tightly with few bedrooms. Instead of hessian ceilings and partitions, 1950s homes were of draught-proof fibro cement or weatherboard with solid ceilings and lined walls. Lounge rooms were previously an unthought of luxury, because, according to one humorous old resident, no one had time to sit in them. The 1940s and 50s brought more free time and homes typically contained one of these luxurious rooms and about three bedrooms.

Around this time, their names expressing a sense of optimism and plenty in the new technology, progress associations began as alternative community organisations to churches. In 1957, the Arrawonga Progress Association formed to raise money to rebuild the community hall, which had been blown off its stumps in a storm. In 1958, the association gained council approval for a volunteer bush fire brigade of sixteen members. The council funded the brigade, supplying equipment such as rakes, buckets, hoses and knapsack sprays. The brigade operated from the back of an old farm truck. In 1961, Lake Macquarie Shire Council approved a proposal for the land behind the community hall to be declared a reserve for brigade use. The council installed a fireshed and an official fire truck followed a year later. And so, a proposal put by a Progress Association mid century carried through to embody itself in official property, a government title, regular meetings and certificated captains and deputy captains. Three of my elderly informants were active in changes the association brought.

Now younger women have taken the responsibility of funding the maintenance of the fire brigade, hall and church. The association's biggest income earner is rental charged for supplying tables and chairs for functions. At the end of the 20th century, the Arrawonga Progress Association raised $1,300 for a new fireshed, the site where I describe my fieldwork in the next two chapters. Like most bushfirefighting brigades, this brigade's history began with ad hoc hazard reductions and firefighting. The passing of the *Forestry Act* 1916 (NSW) placed bush surrounding the hamlet under the control of the newly created Forestry Commission (later to become State Forests of NSW). Prompted by fire catastrophes in 1938/9 and 1944/5, the *Bush Fires Act* 1949 (NSW) extended government control. Bushfirefighting training was to be organised. The Department of Bush Fire Services was created. The department's first role was to administer the Bush Firefighting Fund. In 1958, Arrawonga gained funding from the Lake Macquarie Shire Council for a brigade. Helen Hill was listed as Mr H Hill to make up the numbers for funding as only men were eligible. In those days, women were not expected to join and Helen never participated in firefighting activities. Showing patriarchy's changing influence on the contemporary, at the time of my fieldwork, about 10% of NSW firefighting volunteers were women (Griggs 1994: 51).

The preceding historical account of Arrawonga provided a means to trace the impacts of competing claims to knowledge. This contextualisation explains the bush's development into a white male domain and an era when bushfires were once less problematic. In the next chapter's fieldwork, with informants with predominantly trade qualifications and working-class employment, there was resistance to participation in semi-structured questionnaires. Many were inarticulate and displayed mistrust about questions posed. There was no mention of Aboriginal bushfire management amongst young or old informants from Arrawonga. A chance conversation in a library alerted me to its significance and so this topic is explored through archival analysis in Chapter Six. To further heighten sensitivity to data, inductive principles with contextualisations (to clarify knowledge gaps, contradictions etc.) guide my experiences as a volunteer bushfirefighter.

CHAPTER FOUR

Some of the colourful characters include the buxom Heather, bored youth, hard drinking men and firefighting grandmothers…

4.1 My First Meeting with Arrawonga Brigade

Not far from the old Aboriginal camp by the railway line, the beige, steel fireshed offered slight shelter on a cold rainy night. On the night of my first visit, light from a truck-sized opening illuminated the droplets of a driving southerly. The shed is one of the most imposing recent changes to Arrawonga. Inside, between two red fire trucks, sixteen people huddled in a circle. On either side of the trucks were rows of navy woollen coats and fire helmets. Most of the gathering wore tracksuits and windcheaters with their shoulders hunched against the cold. They planned the month's activities, discussing outside governing bodies with unease. Brigades enjoyed a degree of autonomy from the Department of Bush Fire Services (as the New South Wales Rural Fire Service was then known) due to the voluntary nature of the work. At a meeting not long after, a notice was read out with satisfaction. A brigade captain from nearby was said to have won about $300,000 in a defamation case against Department of Bush Fire Services Commissioner, Phil Koperberg. Apparently, Commissioner Koperberg, could not prove allegations the captain had misappropriated funds.

On that bitterly cold night of my first meeting, the gathering had left the comfort of lounge rooms and heaters for a variety of reasons. Most said they enjoyed the adrenaline rush of firefighting. Others cited the community's and/or their own need for protection from fire. Members changed over time, as people who once regularly attended drifted away to be replaced by new faces. People left for a number of reasons. Sometimes there had been a quarrel, or family obligations or finding work made attendance difficult. There was a strong sense of solidarity between those remaining, which informants who had been rebuffed described as their "well-known cliqueyness". It was faction fighting between left and right according to Harry Baines at Fire Control, while another friend of a member described it as keeping out the unwanted, as the fireshed was also used as a clubhouse for smoking "dope" and drinking. Most active members lived in adjoining suburbs, with a few from Arrawonga.

At that first meeting, I explained I had permission from Boolaroo Fire Control to research bravery, gender and firefighting and asked for their participation. They read my information sheet. Heather, the brigade's secretary and treasurer expressed pleasure at having bravery researched. The meeting lasted three quarters of an hour and other discussions included training, fire attendance and funds. It was suggested I could get through enough training to go out on a fire in one month as it usually took two. I did not go out on a fire until November 27, over five months later; a tough, larrikin humour was a brigade feature and the first indication of their efforts to enjoy an activity, which was often dangerous. That cold July night, the tall steel shed only provided shelter from the rain, its thick concrete floor absorbing body heat and the open door allowing in the winter rain. After the meeting, we had cups of tea in an area sheltered from the wind at the back of the shed. I produced a sliced homemade butter cake with lemon icing, which everyone enjoyed. Contrasting with the unadorned tin shed housing the trucks, this area was homely and lined with new pale grey plasterboard and carefully done cornices.

Grey, marble-look tiles covered the floor. We stood around the urn in the kitchen. There was a state of the art double bowl sink, microwave and a refrigerator with the price of soft drink cans on its door. A humorous notice recorded whose credit was questionable. A hallway led to a shower block and toilet cubicles, all tiled recently, I was told, at no expense by a local tradesman. This back section was divided into two floors connected by a staircase. Overhead, was a storage and locker room. Leading off from the kitchen was an enclosed office with glass sliding windows, a phone and a fax. As I viewed this gathering over my polystyrene cup, one of the brigade introduced himself. Howard told me he had fought fires for about 30 years, until his health deteriorated because of weight gain. Along with Ann he had become the brigade's unofficial cook. Women were in the minority. At the meeting were only Vanessa, Heather and myself. Heather described finding her true vocation in this white man’s sphere.

4.2 “They’re Not the Gods That They Make Them…” She Said

One of the brigade's most active members, this humorous woman was the author of the notice about credit. She did much of the administrative work, organised cleaning and brought cake or donuts to training. Very buxom with carefully upswept hair, on that cold night, she officiated as secretary in her trademark outfit of a gauzy, colourful sarong; its width narrowed by folding to mini skirt length and knotted around her hips over a black, low-cut leotard and platform sandals. A darker side accompanied her banter with the men and her glamorous appearance. She complained bitterly about local attitudes.

> A lot of people in Arrawonga gossiped when I joined because I was an outsider... Why a sarong, body suit and full makeup to fight fires... hanging around all these guys? There was a lot of talk about me... coming in at lunchtime to do the books. But yeah... that's me, Heather... the way I dress. I believe that if you look like shit you get treated like shit.

She and Phil, a giant, bear-like 15-year-old, often engaged in water fights and wrestled. On one training session they giggled, wrestled, punched and kicked each other over the 20-minute trip to hose practice. Just at sunset, perched outside the fireshed, the two smoked a joint. Phil seemed interested in marijuana, often chatting about its cultivation. Another night, they chased each other with buckets of water. Heather and the inside of Phil's car got drenched. I was also the object of their humour when, with two others, they picked up and turned my tiny car around in the car park. To their disappointment and my later embarrassment at being the subject of their rather biting humour, I drove home without noticing.

Married with three young children, Heather said she worked in Sydney in retail before moving to Lake Macquarie. She described deciding to join the brigade after the 1993/4 fires, when her third child reached school age. She wanted to give something back to the community, she said, and the idea of firefighting attracted her. "It was a combination of things. Being involved with other people, other adults who can put lots of sentences together (laughing)". She described preferring the company of men to women, having the same number of men as women friends. Her two closest associates were her sister and a man who she

"just sort of clicked with". Having male friends can be handy, as they give her an insight into how men think. But contradictorily, “being the opposite sex doesn't come into it”. She could also talk to her male friend about her problems as he does to her.

> Women can be more complex and guys more basic. You can get that nasty bitchiness with females... It helps down there because they're mostly guys. It helps if you can get down to their level.

Interlaced with her humour was a forceful personality. When I asked Adrian, a deputy captain, how he would describe bravery, he laughed and replied "living with Heather". He added that after a critical incident he had never seen a woman suffer from stress to the point it become a problem. At the time, Heather was leading a clean up of the shed and he was mopping the kitchen floor, chatting to her. The clean included sugar soaping all walls and cupboards and scrubbing toilets and showers. Heather related telling her husband of her decision to join the brigade. "He said 'Why do you want to do that?' He was not 100% comfortable with the idea. Currently, he is 80% in favour." Heather's humour masked contradictions and tensions in her liking for men.

As a girl, she said, she loved Enid Blyton and later developed a taste for horror stories, moving on in 1997 to books with lots of action, in particular espionage.

> Every now and again I will read something mushy and romantic, but (disdainfully), just sort of find them (trailing off)... They're all right every now and again. Probably twice a year... (laughs). Well they're so (trails off again into silence)... It's just not like the real world... But I mean, men swooping in and sweeping you off your feet, and they don't stay so nice either. They're not those wonderful gods that they make them... (before spelling out further details she moved on, changing the subject to books she liked).

While the heroes of romantic fiction were too unrealistic, she said the adrenaline rush heroes of spy novels were more to her taste. In line with her preference for stories of toughness and suspense, she found her true vocation as a firefighter, but thought she would be too old to join the paid brigade once

her children were old enough for her to work. When asked if she thought women would be treated fairly in the paid brigades, she laughed and said she imagined a woman would really have to kick heads if she wanted to get on.

> You'd have to prove yourself tenfold and you'd have to be very mentally tough to take the sort of crap that they're going to dish out, um yeah... It's just hard to get in. It depends on where you live, your training, your age, sex even.

Heather stressed the difference between the men of the voluntary as opposed to the paid brigades. She said she could honestly say she had never seen a paid woman firefighter. When she encountered men from paid brigades, they reacted to her negatively, as if to say, "ohh you're a girl". She contrasted this with Arrawonga where she described being made to feel comfortable and where in the last year everyone seemed to "have really clicked and, work really well". This was important she stressed, because if you did not have support, injury could follow. Life saving warnings for falling burning branches might not come and “what could you prove?” Heather was amongst the brigade's most extroverted and was the only female firefighter who said being a leader was a possibility she considered. Unfortunately, after these questions, Heather declined to be interviewed further.

After my fieldwork ended, I heard from Cherie that Heather realised her dreams of leadership, becoming a deputy captain. An inquiry was the unfortunate result after she was videoed as an example of female leadership for a promotion made by the Department of Bush Fire Services. The brigade was carrying out a routine hazard reduction burn and the truck commanded by Heather was parked close to burning bush. Leaving Cherie in the truck with the driver, she went to another part of the fire. Regulations prevent subordinates leaving trucks without permission and the truck caught fire without its occupants' knowledge. No one was hurt but the damage to the truck was considerable. According to Cherie, another calamity occurred at around the same time when a colony of koalas died in a serious wildfire. The brigade had been unaware of their existence and had not taken steps to protect them with hazard reduction. With the exception of Cherie, members never mentioned brigade mistakes such as

these. Instead, I was instructed on bushfirefighting's theory and practice and the self-actualisation the brigade brought for its members. Like Heather, Ken described the brigade as one of his main interests, he too "found himself".

4.3 Ken and Discipline

Like Heather, he was another high profile member who was at most brigade gatherings, outgoing and keen on getting ahead. He was a deputy captain, a position, which similar to being president, treasurer, secretary and captain, was voted on by the rest of the brigade. In my time at Arrawonga, he put an enormous amount of energy into training and was constantly admonishing those of lesser rank in an effort to meld them into efficiency. He was always thinking of ways to organise new drills and exercises. If we were standing around chatting, typically he would dive in enthusiastically and start a manoeuvre. Ken was 23 and had a girlfriend whom he met through the brigade. Ann could not stand the smoke from fires and did not attend real fires, only training sessions.

On women fighting fires, he thought they were "all right, so long as they know their place". He quickly added the same applied to his father Mark (who is on the elderly and frail side and a driver). He said he would not expect either Mark or I to lift a large drum of foam concentrate off a truck. I said I can do this easily. But it would not be as easy as Phil doing it he said quickly. Ken himself was around 181 cm tall, with a wiry build and out of overalls often wore a football shirt. He had a crew cut and talked volubly and confidently. He was employed as an air conditioning technician, but had just applied to enter the paid fire brigade. Later, it appeared he did not make the entry requirements. He said cricket and football were his main interests as a boy and he still spends time in these activities. Ken, his father Mark and Ken's younger sister Vanessa were all part of the 1993/4 firefighting response. Unlike Heather and Ken, Vanessa said she was unambitious in the brigade.

4.4 One Big Happy Family… If Women Know Their Place

Vanessa, who was employed as a clerk, was quieter than Ken. Although in the brigade since before the 1993/4 fires, she did not hold rank and said she had no aspirations to leadership. Instead, she described enjoying the social side of

the brigade, as "a second family". Vanessa said she had about a half dozen very close friends at the Arrawonga brigade. There was friendship and camaraderie in her contact with other brigades nearby. "I started to build up friends with them and you mightn't see them for ages but you know they're there". She had spent time in the 1993/4 fires fighting fires with different brigades and in communications at the fire service's local headquarters.

She described one of the men in charge there ordering her to go home because, after her shift, she would stay to listen to the radios for news of friends and family. She said she refused and continued her vigil. After the fire effort was the relief of being able to catch up on sleep. But, lack of sleep had not been a problem she said and described recovering quickly from the disaster. Unlike, firefighting, Vanessa described bravery as lacking a gender boundary. It was overcoming the fear of the unknown by learning how to deal with it.

> Going out there and telling what's going on. Like you never know what's going on and you seem to know what to do and stuff like that... (Of the 1993/4 fires) it was more the fear. Whereas we sort of overcame it because we didn't know what to expect back then. (My bracketed insertion)

However, there were gender boundaries in bushfirefighting itself. On women as firefighters she said, "they should continue the way they have". Like Ken, she thought they had their place.

> Um, its always been an all guys brigade and if there's more guys and more experienced guys, and if there are guys more experienced than me, then I would always stand down, because that's how I am, the way I've been brought up. Like to be honest, you can't always... A lot of the time you can't do the things the guys do, like guys can drag out a stump better than girls. You can't take down the drip torch fuel 50 times.

Later, on a hazard reduction, my drip torch proved economical and rarely needed refilling. Nor was there was there any need for massive strength to pull

out large stumps. Smouldering stumps that were small enough were easy to kick over. Such stump removal must have been extremely rare, as it was never referred to in others' accounts or witnessed in hazard reductions. Large, smouldering stumps were hosed out with water. While her parents carried out gender-differentiated work around the house, Vanessa described herself, her brother and sister as doing things as a team.

She described an active childhood with her friends and brother and sister, in particular swimming, softball, cricket and bicycle riding in the bush. The family went away camping for holidays fairly often and Vanessa also rode horses. She rarely read books outside of school because she spent so much of her time playing and she did not like reading when she was younger. Currently, she likes to read magazines and "true stories" which she described as accounts of dramatic events such as crimes or the details surrounding the disappearance of children. She also watches "true stories" on video. She said it was the idea of being able to help that drew her to the brigade after her brother and then her father Mark joined. She said she is rarely home now as she spends a lot of her time with friends. There was a strong sense she was living in Ken's shadow in the brigade. Vanessa, unlike Ken, described no great enthusiasm for firefighting. Her biggest interest in life was forming friendships and this was said with far less enthusiasm than Ken describing his firefighting. We only had time for half the semi-structured questionnaire and she agreed to complete it later when she had time. The next time I saw her at training, unlike the Cessnock women's enthusiasm about research participation, like Heather, she said she would not complete the interview. "You just watch what you say", she said menacingly narrowing her eyes. Ken, and her father Mark also declined to be interviewed more than rare conversations when they were unoccupied.

4.5 Mark

Mark was invariably at brigade meetings but kept a low profile in his main activity of driving and fire truck maintenance. Like Vanessa, he was a listener and a doer rather than a leader. He looked quite embarrassed when he was appointed a crew leader one training night. He had a toothbrush moustache, glasses, was the oldest firefighter in the brigade and was employed as a mechanic. At brigade meetings he took up a place outside the giant doors and

puffed away on roll-your-own cigarettes, rarely speaking. He expressed progressive views about women as firefighters, saying they can fight fire just the same as men. Although this egalitarian attitude was not reflected by Ken and Vanessa's description of women knowing their place, I met Mark's youngest daughter at the brigade's Christmas party after she won a junior title for martial arts free sparring in an overseas tournament. On leadership, Mark said this should belong to the most senior person... the one who knew the most and was the most experienced. Leadership involved making the right decisions. I asked him if personality made a difference and he said no, it was making the right decisions. There were different types of bravery he said.

Bravery was risking your life and it depends on who is deciding who is brave he told me. It was something that varied according to who was judging it, but generally involved taking a risk and not knowing the outcome. Mark thought women can fight fires the same as men and that it just depends on training. He said sometimes they might not be able to handle the fear involved in being in smoke where you cannot see. His son Ken's girlfriend Ann is like this and cannot go into thick smoke. He also said strength could come into it too. I asked him what he thought of strong 6ft 2" women as firefighters and he said this would not involve a difference in strength. He could not think of anyone in particular from the 1993/4 fires who was brave, because they were doing what they were trained to do.

There was a point in disaster response that moved outside the boundaries of disaster training. He thought a police rescue worker brave after he dragged out a man from an underwater pump at the steel works of BHP Newcastle. The rescue was the centre of controversy at the time. It was so dangerous, some said it was foolhardy. He said many people in the last war were brave but unrecognised for their actions and again, many people who received bravery commendations were not what he "would call brave. They were simply doing their jobs." He described another point beyond which bravery turned to stupidity, when people go into a situation without caution and/or without knowing what was involved. He did not see the contradiction between this and his earlier description of bravery in taking a risk and not knowing outcomes. On

several occasions, he and another of the brigade's truck drivers smelt strongly of alcohol before they got before the wheel. One of the brigade's deputy captains and another regular at training and meetings Adrian, also declined to be interviewed, but agreed to talk to me occasionally. He said he thought women have more courage than men because they handle stress better.

4.6 Adrian

Of women in fires, Adrian said pointedly and without prompting that no woman needed counselling during the 1993/4 fires but several men did.

> From my observations of firefighting, requiring counselling has little to do with what sex you were and is due to an accumulation of stress. It is up to the leaders to decide who to send into stressful situations. Sometimes in terrible situations, untested and inexperienced people have to be sent.

He was described by a council worker as locally recognised as one of the bravest of the region's firefighters, having pulled out more people from fires than another man who had received a bravery award in the brigade. Adrian was a brigade captain and had been in the brigade the longest. Generally a quiet man, occasionally he broke into surprisingly violent outbursts when in charge. Over the years he said he has had to "yell and shout at people" to make sure everyone took notice. Shouting gives a note of urgency, helping to bring immediate action he explained. "There are different leadership styles and this is the best for me." Adrian was a forester by occupation and had a farm on the outskirts of Arrawonga where he raised cattle and kept a couple of horses. He was married with grown up children. Another regular at training and meetings, the brigade's captain, Burney held different views on women's role.

4.7 Burney on Feminism, "Overall, It Doesn't Really Bother Me"

Burney described an interesting life growing up on the shores of Lake Macquarie. He had several brothers and often took responsibility for work around the home because his brothers "weren't around" when it was time to kill a couple of chickens for the Saturday night roast. He said he mowed the lawns and did gardening. He described himself doing domestic chores, including the dishes. As a boy, he had a slug gun, went sailing on 16-foot racing skiffs with the boy Scouts and later on a catamaran his mother bought. He played tackle football, bicycled and raced billy carts. He was never interested in reading but

made an effort with his son by reading bedtime stories to him. He described his mother as working hard. He and his brothers used to help her finish her work so she could get home early. Like the families of most of his friends, his father worked at the local power station. Burney was building his home and said he does household chores like the dishes. He was also one of the workers in Heather's fireshed cleanup, sponging walls with painter's soap.

It would appear that keeping women solely in the domestic sphere was unaffordable for his family during his childhood. He described egalitarian attitudes consistent with the left-wing movement which had been so powerful in the region, but which contradictorily kept women out of more lucrative jobs such as coalmines and the power station. His described his mother's paid work as an important contributor to the family income and he and his brothers helped her all they could. Implicitly, including women had its advantages as a strategy for his captaincy of the bushfirefighting brigade. Women kept numbers up and this was important for funding. Women firefighters did a lot of domestic sphere activities, forming a key group for cleaning, cooking sausage sizzles and providing sandwiches. They were heavily represented cooking for the miners' picnic, which was the brigade's major fundraiser. However, there were limits to how far women could go. On the question of women's liberation, he was resignedly humorous.

On women like Greer he said ponderously:

> Well... overall I suppose it doesn't really bother me... If they want their independence I'm totally in agreement, so long as they don't come to ask me to come and do something for them. If they want, they've got it... They can look after themselves, don't come and see me sohhh... (chuckles).

On women as firefighters, he described them as useful members of the team, who, as they were smaller, were more likely to "wear out".

> As long as they do their work, I'm a believer in if they're good enough and up to standard to do it, you can do as much work as I can. You've just go to watch... even men, different blokes on the team you've go to watch, because the big bulky blokes who can handle the work and

> other people, thinner people get worn out. With a bigger frame, you've got the ability to push a bit harder, whereas thinner people get worn out quicker. That's my job to watch my people and see what state they're in, if I see they're getting exhausted.

Burney is Phil's father and both have bear-like builds and I am thin. Burney described himself as a team player. He described liking to fit in with a group as he had done since he was a child helping his working-class parents improve the family lifestyle. From these early years, he said he developed a taste for hard work and community involvement. When I told Burney I was curious about whether Aboriginal people once knew how to mitigate bushfires he made no reply. He went on to describe the team playing, which was a central part of his childhood and continued in the brigade and in his own family with two sons and a young daughter. However, being from Lake Macquarie and working class had its negative side. He found class a formidable barrier to early aspirations to social mobility.

> I struggle through life as it is... I went back to tech to do engineering. But I gave that away. The tech work was too hard, going and studying and trying to work at the same time... I was given the dogwatch. It was just too hard to work all night and then go to tech all day and get home at 7 o'clock and get back at work at 12. So I gave that away.

Nevertheless, he described a life where he pushed his options to limits within his reach. He held high status. Well liked in the brigade, he was recognised for his efforts during the fires in 1993/4. At his workplace he also seemed to be popular and held the rank of mine deputy (a very well paid position) and safety officer. He organised the brigade to cook for the annual miners' picnic in order to raise funds for new firefighting equipment.

His son Phil was his constant companion in the brigade and another avid firefighter. During the 1993/4 fires, Burney said his wife Cherie worked long hours cooking for the firefighters at Arrawonga, which was a centre of activity. Of all the non-member wives, he said she made the most appearances at the fireshed during the disaster response. He described the 1993/4 fires as so

intense and unpredictable, they were beyond firefighters' control. He was driving a bulldozer trying to clear firebreaks when it hit. He realised he was fighting a losing battle and escaped to safety. Burney said he was attracted to firefighting after moving to Arrawonga. Meeting and liking people such as Adrian and Cliff gave him the impetus to join. Currently, he said he enjoys firefighting's adrenaline rush, feeling useful, making decisions and looking after his crew. Group Captain Cliff Bushell was another describing battling impossible odds in the 1993/4 fire response.

4.8 Cliff Bushell

He instructed me at length as he described 30 years of firefighting. As Group Captain during the '93/94 fires, he said he got "truckloads" of PTSD. He had commanded five fire crews. Ensuring they had enough to eat and enough sleep, he worked for three days without sleep, finally collapsing on his family's veranda with exhaustion when he returned home.

> There were very dangerous circumstances and… fire went across the trail. The only way out was with the bulldozer and I had ways to go back through the fire. It was hot, extremely hot (he was surrounded by flame and burning trees)… when you're in charge of so many people and vehicles, even though you may be um nervous and even scared at times, you can't allow that to show through. I always have a saying with firefighters, if I see them starting to get panicky, I tell them they have my full permission to panic when I panic. I had a situation in the '94 fires when I was actually physically ill and threw up from stress…A fire was coming… It was when I had five trucks in place that I took a quiet minute to have a puke, washed my face and hands and returned to the common foe. (He takes a piece of cake.) Um, if the temperature hadn't dropped that evening I would hate to think what could have taken place… I guess it was knowing the size and ferocity of the fire that was coming and anticipation of whether or not we could hold out from the full force of being hit where we were. I'm a person that absolutely hates to be beaten by anything. I personally, um well I take personal exception to fires at times when they're a major problem to control um, I take it as a personal battle, so I can use all my skills and guile to bring

> the fire under control and I do, I really take it as a personal battle when anything is out of control…

When I told Cliff I had a theory that Aboriginal burning once controlled bushfires, he authoritively said they would never know such a thing. When asked about his childhood years, he did not mention the Indigenous Australians who camped by the railway line. Instead, he recalled corned beef, boiled vegetables and white sauce with gusto. His mother Emily cooked this once a week. Her part in a white male patriarchy also went unmentioned. Another key player and a brigade captain, Glen, described the ’94 fires’ march through the bushland. Although the question of a contribution from Indigenous fire stick farming was lost on him too, hazard reduction as it is described in fire service and manuals was vital.

4.9 Glen on Fuel Loads

According to Glen, there were a number of factors behind the devastating bushfires. The first was high fuel loads, a bushfirefighting concept describing humus, leaf litter and undergrowth (see Bush Fire Council of NSW 1986a). Correctly reducing fuel loads little endangers wildlife. Hazard reductions are carried out when the weather is cool and the bush not dry enough for the fire to crown. Animals scurry to safety while those in the treetops are left unaffected as the scrub below them burns at low temperatures due to less extreme weather conditions. Firefighters can move around with safety, positioning fires strategically. Glen gave examples with gusto.

> Most of the big fires started in national parks because they didn't want to burn off until there were fuel loads of 23 tonnes per hectare. It is well recognised now that any area above 15 should have firebreaks around it. I think seven to nine is ideal as a benchmark and fairly controllable if it catches on fire. Bush should be reduced to seven to nine and then allowed to build up again. You can't do the whole country. There are places that are up to 60 tonne at the moment. You can't carry enough water to put out a big fire, so you put it out with fire. You backburn... run a fire into a fire. Fire changes the direction of the wind and can be used to pull another fire into it. When they meet, there is nothing left to burn... then you damp down by putting out the edges.

Jenny, another keen firefighter, a grandmother and Glen's girlfriend for the last 12 years gave more details of the 1993/4 fires.

> Glen got scorched eyebrows and two of our blokes' boot soles melted. On January the third the humidity was nine per cent, which was critical. We were getting temperatures around 38º and we had high winds. With the bloke on the trail bike, all the players were there. We had been waiting for it for two years because the Environment Protection Authority would not let us burn off. We had to look for Aboriginal artefacts and sites, endangered species etcetera. We had been given a lot of red tape. After '94, the EPA let us burn a bit... Because there's so much pressure for public servants to perform to justify their existence and they've said well OK, we're going to file an environmental impact study. One of the blocks is 80 hectares. We're supposed to walk through 80 hectares of stuff and recognise Aboriginal sites. Then what if we find bilbies, do we move them? There's an area of bush I know very well and I've got blue reflective tape tied around where there's land mullet, a large shiny dark chunky lizard with a very dark head, which is a member of the skink family... We don't burn all four sides of an area because that traps animals in the middle. We don't burn in September because we don't want to damage new growth and nesting animals. We tend to burn around May and April. It's nice, it burns quite well with a minimum of damage... We got a couple of burns done this year (1996), but in the main, the fuel loading is up through the ceiling.
>
> (My bracketed insertion)

4.10 The EPA and the National Parks and Wildlife Service

During my fieldwork, many volunteer firefighters cited the “greenies” and the EPA as handicaps in hazard reduction burning. Combing vast tracts of bush for Aboriginal sites and endangered species and doing the necessary paperwork was described as a major difficulty in implementing hazard reductions. An EPA spokesperson advised that the organisation has nothing in its hazard reduction burn legislation about Aboriginal sites or endangered species (personal communication 2002). The EPA, she explained, issues non-burning notices for

total bans when there is little wind where the smoke will descend rather than blow away. This power was introduced after the 1993/4 fires. Prior to this, other legislation and ministerial directions restricted activity to control refuse burning. These regulations were introduced in 1988 and also regulate against burning with inversion layers. She suggested that I ring the National Parks and Wildlife Service to see if this organisation was the one with restrictions on burning to protect Aboriginal sites and endangered species. A NPWS Fire Management Operations Officer said the notion was "a total furphy".

> I was on a fire line in the '94 fires with a lot of volunteer brigade firefighters. They were blaming the NPWS for the fires and its endangered species legislation. They were just misinformed. That night at camp, we explained that they were never restricted from doing anything. Prior to '94, legislation just wasn't an issue. It's a commonly held misconception amongst the brigades. Before '94, local government and fire bodies didn't have to do environmental assessments. If they were going to do a burn, it would have been our people who mostly gave advice on threatened species and Aboriginal sites and relics. After 1995, legislation was passed and the council has to do an environmental assessment before a hazard reduction burn. Legislation has protected Aboriginal sites since 1974, and these are identified by the NPWS so that brigades can stay clear of them.

On the question of the 1993/4 fires starting in national parks, he said the one he fought began somewhere in Cottage Point, a suburb overlooking Pittwater in Sydney. The fire spread into Ku-rin-gai Chase National Park. Investigating the question of Aboriginal sacred sites, I talked to three Lake Macquarie Aboriginal elders. They expressed cynicism about white bushfire management.

Morris Walker was annoyed saying it is not true that Aboriginal sacred sites are obstacles to correct land management. Aborigines have always burnt their land, so there is no reason to suppose that safe, slow burns endanger sacred sites. The biggest danger to sacred sites is wildfires' high temperatures that can shatter rocks with paintings and carvings. He said he had invited an elder

from Arnhem Land to teach them Aboriginal hazard reduction burning. To him, the continually escalating problem of bushfires meant that white authorities were not dealing with the problem. He said Aboriginal people in Arnhem Land hazard reduce continually during the dry, despite heat, which is comparable to the Hunter's summers. Once people from his region learn the traditional ways, they will hazard reduce their own lands he said. As well as the difficulties of identifying Aboriginal sites and dealing with the NPWS and the EPA, Glen blamed elite level decisions and firebugs for the failure to control the 1993/4 fires.

4.11 Poorly Based Decisions, False Alarms and the Lime Green Trail Bike

Unprompted, six other brigade firefighters - Cliff, Gabby, Burney, Jenny, Tom and Sean confirmed Glen's account of the fire's arrival, reaching similarly critical conclusions about decisions from the upper levels of the then NSW Department of Bush Fire services. Acting on orders based on outdated information from Sydney, Incident Controllers ordered all but two of the area's fire trucks out to far distant Singleton about 100km away and a three-hour return trip by fire truck. A phone call directed the remaining two trucks 25km away to Seahampton. This last directive proved a false alarm to draw them from the real trouble. Glen thought the false information may have come from a firebug on a lime green trail bike.

> I was in a car with some other firefighters when I saw smoke and realised there was fire at Palmers Creek, close to Arrawonga. By the time the two trucks returned, the fire was starting to take off. We made a decision that rather than fighting fire all night, we should try a knock back. We ran like buggery. I ended up with heat exhaustion. Bushell came in and said who was going to Singleton?... The next morning, he lit a fire at Seahampton. On (January) the third, about 11am, they could see the smoke coming up. Arrawonga almost rolled its truck, so they lost about 20 to 30 minutes. They went in and found a small fire and thought the other Arrawonga fire truck was behind them, but this had been called back to Ryhope where another fire had started. There were spots everywhere and we were running out of water. That day a nut sent everyone on false alarms and then got one going from the other

> end. Four spot fires were running. Then it was as big as a house and taking off. I radioed Gary and asked for more trucks and he said he didn't have any. I grabbed Mark and said we'd lost it and should get out and try to save Edgeworth. We should fall back and regroup. It had to be an arsonist, or maybe two to three of them, because the fires were located to the northwest through to the southeast but new fires kept appearing to the southwest (a westerly was blowing, so wind could not have carried fires to the southwest). There was a maze of bush tracks and panels of bush kept catching on fire.
>
> (My bracketed insertion)

Fleeing after lighting a backburn in such windy, hot and dry conditions contradicts basic texts on bushfire management. According to other seasoned bushfirefighting captains and a panel of bushfire scientists advising Graeme Johnstone, (State Coroner, Victoria) bushfirefighting guidelines warn against backburning in extreme conditions (Johnstone 2002: 229). The “knock backs” or backburns Glen described (lighting a fire in the main fire’s path to put out the main fire) made the fires larger and more intense. Backburns should only be done as last resorts, in mild conditions and preferably at night as successfully demonstrated in my fieldwork and by the Cessnock brigades’ midnight backburn.

A strategic line is staked out with firefighters ready with drip torches. As soon as the wind can be felt “sucking” from the main fire, the line is lit and crews escape speedily to their trucks. “A rule of thumb is that spotting precludes the use of backburns” (Cheney 2003 personal communication & see Luke & McArthur 1978: 97). With its extremely high temperatures and high winds, the fire that Glen and his fellows experienced was a wildfire generating its own weather. It had passed the threshold to become a dynamic system. When it met the fire they lit in front of it, its heat intensified. As training manuals and bushfire texts state, this new energy enabled it to pass over burnt ground and keep going. More powerful than ever, the firefighters fled for their lives (see Johnstone 2002: 229). Glen was the captain of his brigade and an instructor.

He and Ken gave me my basic training. Glen was gregarious amongst brigade members but said he had a bent towards being a hermit. Jenny does most of the talking when they are together with Glen contributing occasionally. "I love history, but have a concentration span of nil," he said. "So I don't read a lot of it. I haven't read a novel for about 18 months to two years. My major reading consists of defence and 'plane magazines." He was a humorous man who usually had a knowing twinkle in his eye. His account of a crack in his psyche came as a revelation.

An ex-truck driver, he said he has been plagued with PTSD since he returned from the Vietnam War. Although acting as ground crew on a military airbase, he described the impact of his war-time experience as ongoing with periods where for as much as six days he was convinced he was in combat in the jungles of Vietnam. In this affliction, he outlined a point beyond which creatively choosing could not go. A point where he was powerless to decide how he would react, think or behave. He described the events leading up to his affliction. He had been fascinated by airplanes since a child and wanted to be a pilot, joining the army to pay for flying lessons. "But they had a war instead, so I went there." Morale had been low in his unit. Following Australian troops' withdrawal he was flown home, discharged and began civilian life afresh. He said veterans who came back by warship might have faired better psychologically because they had others with the same experiences around them as they adjusted to the idea of civilian life. Realising he had problems coping, he first applied for psychological treatment in the 1970s, but it was only in 1993/4 that he got a PTSD diagnosis. Until this disclosure, Glen presented as the embodiment of a confident leader. He was chirpy and, like Jenny, described being hooked on the adrenaline rushes of firefighting and abseiling. According to Jenny, it was Glen's influence that made her health conscious and fit.

4.12 Bushido, and the Paradox of its Necessity for an Ardent Feminist

The object of behind her back derision in the brigade, ardently feminist Jenny met Glen when she had wet lungs from heavy smoking. This condition stopped her participation in the 1993/4 fire response. She said being unable to take part

was so frustrating and powerless an experience that she began a new life of exercise and careful diet.

> I was bitterly disappointed because I couldn't be where my heart wanted to be... As soon as I could, I went to a GP who put me on a fitness regime to help my breathing... After this, I had to go through six physicals and finally I was as fit as a 25-year-old. I have a certificate from a doctor and it is on file at fire control.

This transformation led to a blue belt in karate, bushfirefighting and, paradoxically, a bushido mindset to fortify her for the struggles entailed by her feminism and non-stereotypical pursuits.

Jenny told me of her adventurous life over lunch. She had two daughters 28 and 30, three grandchildren and was 48. Passionately committed to firefighting, the self-employed sign writer showed me a large bushfire archive. It included books on native flora and fauna, a 600-centimetre pile of newspapers with corrections of bushfire stories by her in margins and videos of the 1993/4 fires. Ideally, she said she would like to have been a paramedic, but lacked the necessary conditions when she was choosing a career. Influenced by this early interest and the holder of prerequisite first aid certificates, she said, she defeats feeling powerless in emergency situations by having a well-equipped medical chest and fire extinguishers in the back of her sign-writing van.

She described growing up mainly in the company of her father and five male cousins and having to be tough. Her mother had abandoned her and her father when she was very young and she had accompanied her father around rural areas wherever he could get work. Much to her great grief, her father died when she was a teenager. Unfortunately, the inner toughness she had learnt from him dissipated during the years of an abusive marriage. She said a transformation in lifestyle and life philosophy occurred about five years ago. She took up firefighting, followed by abseiling and karate. Jenny was fond of telling the story of her female karate instructor’s visit to her sign-writing business. The sensei was riding a 1300 Harley Davidson and one of the sign writers was about to be flirtatious when Jenny said her visitor held a second dan black belt, won the Masters Higaonna Cup at the National Championships

in 1996 and came first in women's kata and second in women's contact fighting. Jenny's colleague remained silent. The mindset of karate or bushido had become a central principle in Jenny's life. One, she said transformed her from a woman who lost confidence and determination during a violent marriage.

> It's the way of the warrior and you live your life with discipline and honour. And everything you do, you do with honour. Your greatest rival is yourself and you have to conquer that undisciplined lazy inner self and you have to give that inner effort all the time and that is the very major part of it.

She said the kiai or karate scream was cathartic. "It lays to rest a lot of ghosts. Even kicking into a kicking pad is a great stress reliever from my day to day work." She described being confident enough through karate to repel three thugs who had menaced her when she was painting a sign.

They had congregated around her and she said she felt their presence was threatening. She planned out her moves. Firstly she would kick over her four metre stepladder onto one on the left and then, as they seemed fairly drunk, she would pick them off according to where they were vulnerable. She said she could sense who was going to move first. She made the pretence of going back to the wall to wash her hands so that she was close enough to kick over the ladder. None of the men moved any further and finally left. Her instructor asked if at any time she felt defeated and Jenny heartily described saying "no!" Years before, she said she would have been nervously edging to the door and been quite frightened. She described her life 20 years ago.

> Not setting out to be masculine, but to being an equal on men's ground because men were doing much more interesting things than women. The women were all down one end at parties talking about dirty nappies.

By the same token, men were guarding their territory. She had encountered discrimination in her early days as the first female to qualify as a sign writer in Newcastle. Jenny said she would also like to be a brigade leader like Glen, but sadly said this was unlikely, as she did not feel that the young men would vote for her. Several derisive comments about her from young men in the presence

of older members confirmed her observation, suggesting that by their reticence, more senior members too, would not vote for her.

Despite this, Jenny described the 1993/4 fire effort with pride, particularly an incident where Glen scorched his eyebrows and one man's boot soles melted.

> At one stage, our crew put themselves between a fire and a house, to try to save the house. Somebody said they would nominate Glen for a bravery award. He said he didn't want it unless his crew got it as well. It didn't go through. I think the person who was going to nominate him might not have been paying attention to what Glen was really saying. He wasn't saying no, but that they'd all been very brave.

Despite the obstacles she encountered, she talked fondly of fire experiences and joked about how brigade members got restless when there were no fires. They would take nostalgic breaths of the smell of burning bush from facemasks used to filter smoke. At the end of my fieldwork, Jenny and Glen gained official sanction to break away from Arrawonga to form their own brigade in a health resort about five kilometres away. Like most informants, she described enjoying the adrenaline rush associated with fire. When at last I was given a chance to “fight fires”, my own experience confirmed these accounts of adrenaline rushes. Like Jenny, I was unpopular. Despite the rhetoric, the notion of equality manifested as a struggle for women who expected to step outside the boundaries imposed by social facts. In Heather’s case, her popularity with the men was not accompanied by local community approval or that of four brigade members who condemned her glamorous appearance and described events that led to speculation that she had sexual liaisons with some of the men. After Heather’s costly mistakes in the video, no one would disclose later events leading to her disappearance from the brigade. Her attempt to manoeuvre outside of the boundaries enclosing her social location into her “true vocation” failed in this instance although I later saw her proudly wearing a uniform as an employee in a law enforcement agency. The journey of my own firefighting experiences and the many embodiments and intricacies of the gender boundaries

encountered are explored in the next chapter. I begin chronologically with a conversation with Deputy Fire Control Officer, Harry Baines describing the tensions and conflicts of a sexual harassment case.

CHAPTER FIVE

THE VOLUNTEER BUSHFIREFIGHTING JOURNEY

In a brigade fraught with conflicts, the right of passage to become a firefighter is difficult. There are long hours of drilling with trucks and pumps and two encounters with fires. My insistence on and success in performing the same tasks as men is unpopular… Just before 12 months fieldwork is up, a decapitated hen appears in my front yard.

5.1 Meeting a Deputy Fire Control Officer

Deputy Fire Control Officer Harry Baines described serious conflicts at many levels in bushfirefighting. There were tensions between volunteers and the paid hierarchy that he represented. There were also tensions between members themselves. Arrawonga had a sexual harassment case, which Harry said the brigade speedily resolved. I later learnt it involved Cliff and a young woman who rarely appeared at the brigade, saying she stopped training because the brigade had too many problems and she felt so bitterly about the harassment incident. Cliff too was rarely seen. Harry also described tensions between the bushfire service (including its volunteers) and the NSW Fire Brigade. Territories between the paid structural fire organisation and that of volunteers overlapped and led to disputes. Like Heather, unprompted, Harry said volunteer bushfirefighting was egalitarian, unlike the NSW Fire Brigade, which was resisting employing female firefighters. There were about 70,000 volunteer brigade members in NSW he told me. In 1996 in Lake Macquarie, around 11% of the members are women firefighters, a statistic that I thought hardly pointed to equality. He said the Arrawonga brigade also has political factions divided between left and right wing voters. Despite its unionist heritage, Arrawonga is unusual in the Hunter for its high One Nation votes. He said there was also controversy amongst Lake Macquarie bushfirefighters over the need for debriefing after a stressful incident.

Some think that "they're big strong people who don't need it, well they're wrong". He described a woman who suffered the psychological ill effects of trauma after viewing a serious road death. Her need for counselling emerged after Harry talked to her. Like her, he said, many people did not realise how much they needed counselling. He described as really wonderful a woman who

was now debriefing people after trauma at the brigade. She was of Spanish descent, he added. Counselling proved not the panacea he thought. Seven months later, I saw him at a bushfire station with his wife. He had been given stress leave he told me, his shaking hands lighting cigarette after cigarette from butt ends. At those first four meetings that Harry suggested in July and August, unprompted, his life story began to unfold. He used to be a draftsman, sends his children to Steiner schools and gave many details of his belief in the school's philosophy.

After these meetings with Harry, there were two training weekends at headquarters. Glen, Ken and a man from Boolaroo Fire Control took these. According to Glen, he and Ken were critical of the man from Fire Control's knowledge. Likewise, knowledge from outside Fire Control was to be critically examined as Harry told me not to believe that there will be a fire problem this year as Heather and others predicted later at Arrawonga. At the training weekend, Ken and Glen appeared keen to teach me as much as possible. There was a sense of camaraderie and equality. There were equal numbers of men and women in a group of six trainees. The brigade supplied lunch and morning and afternoon teas. Lunch was barbecued sausages and patties in buns with fried onion and sometimes salad. For breaks, there were biscuits, tea, coffee and orange juice. On the last day, something went wrong with the catering and we were given sandwiches from a shop (salad; chicken and lettuce; ham and tomato or cheese). Glen introduced me to Jenny. She chatted about her giving up smoking and the fitness levels she is now achieving. Jenny and Glen represented this safety consciousness and concern for others as a theme of the brigade at Arrawonga. Look after myself first, I was told, then the crew, then the public and then property.

5.2 Sausages, Fried Onion and Cake as Morale Builders

Training began with a barbecue for $2, which Heather and Ken told me promoted a close-knit atmosphere. Contradicting Jenny's words of health

promotion, brigade food invariably consisted of cake (brought by Heather) and sausages on white bread rolls or sliced bread. Sausages were cooked on a large gas barbecue that was part of brigade equipment. Training sessions began after sausage and fried onion sandwiches or rolls with a choice of tomato or barbecue sauce. We donned heavy cotton yellow overalls or shirts and pants, followed by a heavy blue wool coat, and helmets. We piled into the two fire trucks for hose practice. The trucks were divided into two compartments with the driver and crew leader at the front. Writhing around next to me sat Heather and Phil, laughing, punching and kicking each other.

At the oval, we used what are termed 65 hoses (because they are 65cm in diameter) branched into two 38 hoses off the back of each truck. I found it easy enough to crouch low and walk forward like a duck holding a high pressure nozzle spraying water, but backing away increases the force of the water and I toppled over like a straw doll. A low position is adopted to avoid the smoke, heat and/or toxic fumes associated with big fires Ken told us. I watched the squad from the other truck and they propped up their hose holders as they moved back. They were also not crouched as low as we were, but Ken told us that the lower we got the better. I asked the person behind me to prop me up and this worked. We practiced rolling and unrolling the hoses and after much pulling and pushing of buttons and levers, filled the tank of the truck with some water from a large wheelie bin. We went to Adrian's property in some adjoining bushland and found a fire hydrant, fitted it to a device called a standpipe and filled the truck's tank. Back at the fire shed, most had a cup of tea or coffee and talked for a while.

As usual, the next training began with sausages. Heather brought a delicious caramel tart with fresh cream. We went off to the oval and practiced hosing, rolling and unrolling hoses. Hosing is not as straightforward as it would sound. There are various settings on nozzles allowing either a strong jet or a fan of water. One setting allows both. Often with a pair of hoses, a crew advances close together holding two nozzles, one pointing a jet of water on the fire and the other set to “fan”, screening the crew from the heat and flames. We practiced various types of hosing for different types of fire and moved

backwards and forwards. We practised unhooking, rolling and unrolling hoses. Back at the brigade, both squads took everything off the two trucks and put the gear into piles. Then the crews changed trucks and put everything back. This, we were told was to get more familiar with other trucks, as crews sometimes rotate. Afterwards, there was the usual get together in the kitchen, talking over polystyrene cups.

5.3 Some Women's Hostility

Since I first began, there was something I tried to dismiss, two of the women seemed hostile. At first I got the uneasy feeling that Heather and Ann were competing for the men. Then I noticed that they were also aggressive to the men and that this was part of their personalities. Both women seemed angry and prone to emotional outbursts. At the unpacking of the trucks, Ann glared and shrilly told me I was putting the Dri Sorb in the wrong place. I said it was right because I had seen it there before. She angrily went to Stan the crew leader of Arrawonga 2 to complain. He told her that the stuff was in the right place. The group tolerated such outbursts of hostility with equanimity.

At the next training, the day had been hot, dry and particularly beautiful around the lake. Bushfires had been burning in adjacent bushland and there was a golden light. At 6.30pm, I arrived at the fireshed and found several of the men just back from a fire, sitting under the stars. Covered in grime and tired for the most part they contentedly talked about fires. A jarring note occurred when one of the younger men poured out a stream of bitter criticism against Adrian. Feeling hungry and noting that no one who had not been out in the fires seemed motivated, I lit the barbecue, cooked about 24 sausages and organised bread rolls and tomato sauce.

The other truck returned with Heather and Ann on board. I wondered what Ann did, if she could not go into smoke, but dared not ask… I had a long way to go to the end of the 12-month fieldwork period. That day, both women were temporarily pleased. I was cooking, and they were hungry after fighting fires. All too soon, Ann found that I had not buttered the bread rolls. I explained that I could not find the margarine. Angrily, she marched into the kitchen and returned, waving a buttered roll. The margarine is in the crisper drawer of the

refrigerator she said sharply as she stalked past. I got the margarine and buttered the rolls. Heather did a curious display with a banana, skipping around waggling it from her bottom. The two women spent a lot of time laughing and talking to the men.

Despite their time spent fighting fires, they decided to hold a training session and we went to the oval. This was gruelling; as the newest recruit, I was the centre of critical attention. Ann noticed my helmet, and, I thought in an unnecessarily rude voice, said I should get another type from the truck. I thanked her but said I would probably be all right, only to find that the helmet was suitable for a comedy. It swivelled around on my head, sliding at times onto my nose, covering my eyes as we rolled and unrolled hoses and hooked them up in various ways. I had a long way to go before I finished my 12 months fieldwork and, foreseeing many humiliations, thought it polite to say how right she was and got another. Two steel drums, which had been cut in half lengthways had diesel poured into them and set alight. We practised putting them out with water and foam, using different combinations of hose widths and connections. I got conflicting directions from everywhere. The reality of the situation was that there was backbiting, bungling and very little heroism. Muddy, tired and back at the fireshed I could see the fieldwork was going to be a long journey.

Before the next training, we had our usual barbecue. I brought some lettuce from my garden to be told angrily by Heather that "men don't eat lettuce". I put the lettuce out and some of the men ate it. When I told Ann I had grown it organically, she sarcastically said "*oh, lovely*". We went to the oval and put out steel drums full of burning diesel. The quarrelsome people were on another truck, which made it pleasanter. Once again I was struck by Heather and Ann's belligerence as they participated in drills. If the leaders were as belligerent, things would be difficult in an emergency.

I arrived early for the next training and waited for Vanessa's big happy family. The women were put in one team, with Heather as the leader. Ken said the crew in Arrawonga 2 (the truck I was on) had been no good in the last training

and we practised hooking and unhooking hoses and various other things associated with fires. We trained on the hill outside the fireshed. It was quite picturesque as the sun set and twilight began. After dark, floodlights had been hooked up so that we had excellent vision. At the finish, Ken said we had done much better. The atmosphere in the crews was better and there were no conflicting orders or squabbling. All Arrawonga 2 forgot to do was snake our hoses once we had run them out Ken told us. We were faster than the men's team. I was on the pump at the back of the truck and enjoyed this. My job involved watching the water level and keeping the tank full, supplying varying pressures of water and turning off the supply at given signals. At the end I also helped to unhook and roll up the hoses. Heather brought cream strawberry sponge and a plate of incredibly beautiful looking donuts. Over the usual end of training cup of tea, the sponge was excellent.

At the next training, once again, Arrawonga 2's crew was mainly all women and we trained on the hill outside the shed. It was very beautiful looking down onto the little hollow with its quaint railway station, railway cottage and tall cabbage tree palm. Surrounding the station and its sprinkling of houses is bushland. First, we watched a team of men doing the drill Ken outlined. They forgot to snake their hoses and the pump man forgot to refill the truck's tank in time. Our team was next. We were getting better organised and there were no squabbles and no mistakes. Ken asked if any of the women wanted to be crew leaders. Heather on Arrawonga 3, gladly took charge. Ann, Vanessa and Cherie on Arrawonga 2 complained that they already had enough to do without making decisions too. Terry stepped in to lead our crew. Leading seemed repugnant to the three women. Let someone else make the decisions they said indignantly amongst themselves. They chatted together about this when Ken gave an explanatory talk. Chatting while someone of senior rank talked to a group was something they did quite often. By disrupting Ken's talks, they expressed rebelliousness without the risk of a direct challenge. Ken tolerated the background murmur. We put out steel drums of burning diesel again with the hoses. I got on Arrawonga 2's water pump, a thing I really enjoyed. The diesel shoots out a black puff of smoke when it starts and chugs along. There are a lot of shiny brass pipes networked across the back of the truck with lever-

shaped red taps. There are dials to monitor, buttons to push and a plunger button to start the pump. I was told to be careful not to run it for too long without running water through because it can blow up the pump. I wondered how Arrawonga 3's pump was after this had been done not so long ago. Heather brought another strawberry sponge with a thick layer of raspberry jam in its centre and a plate of fat donuts. At the end of training, Ken came up and asked me questions about the intricacies of the pump system on the back of the truck. Having never been taught about it, I guessed my way along with prompting from Ken. As a child, I had been fascinated with steam engines and had once put in my own water pipes in a house I renovated, so perhaps this helped. He asked me if I was sure I knew nothing about firefighting before. I assured him that I did not after deciding that disclosure of my fascination with pipes and pumps would be too unstereotypical for him to accept and an indication that I did not know my place. The next brigade event was its annual general meeting.

There were about 20 people there, concerned mostly with planning for equipment needs for the next year. Adrian was chair and Heather sat next to him as secretary. Burney commended the "*men*" who fought a fire at a fibreglass factory. He said they were competent and well organised in packing up and moving quickly as the situation demanded. Burney also mentioned that someone had been stealing fuel out of the trucks. Adrian asked us to make suggestions for new equipment. They discussed all sorts of things, including the cost of Terry mowing the lawns and more kitchen equipment (as the new strategy is for brigades to prepare food in their own kitchens which are more user friendly than catering vans). Someone said it looked as if she had had enough when Heather got up and walked, swinging bent arms in an aggressive way into the kitchen. But it was not because she was fed up, but getting some information for the meeting she said on her return. I suggested cutting up things for the food and Heather (who had already talked about a stove) said irritably that that came under kitchen equipment. The next training, wary of indications from Heather that I was unwelcome, I tried to be as invisible as possible.

5.4 A Disappearance

We began with the usual barbecue and I helped with the food preparation, washing up, cutting up onions and buttering the rolls. Just after I had eaten my roll, Glen suggested that Vanessa and I could go out on a fire for some experience. When we were almost at the fire scene, the other fire truck passed us. It was returning to the fireshed. We turned around, as this was a signal that the fire was under control. When training was about to begin, Adrian approached Tom Bushell and told him that his crew was not experienced enough to have been at the fibreglass factory fire. Tom (who I now recognised as the man who was complaining so bitterly about Adrian at a previous training) flew into a violent rage and poured out a torrent of swear words. Cherie told Tom not to let it get to him because that was what Adrian wanted. Ken overheard her and told her not to interfere and that "the brigade will handle this". Tom rarely appeared at training after this. It seemed such disagreements were common. Tom had proudly recounted to me getting into fisticuffs with a crew leader from another brigade to settle a disagreement over firefighting tactics.

Timothy and Ken took training. We unpacked the gear from one truck, repacked it and then changed to the other truck and repacked its gear. For some reason Gabby called out vehemently to Timothy that he was a prick. We unpacked the trucks successfully we were told. When I was having a break, I went to the fireshed to get a piece of cake brought by Heather. The more advanced firefighters were seated in a ring and Adrian was standing behind Heather, massaging her bosom and neck. I went outside to eat my cake. Gabby came out of the shed and looked wolfishly at me. I watched the advanced firefighters doing a drill for assessment by someone from outside of the brigade. After their drill they were told that all went well except for the way a venturi was treated. Adrian defended their actions and the instructor told him that this was bullshit. Ken changed the subject by pointing to what had been accomplished well. Not long after this training, I interviewed Glen and Jenny and events took a curious turn when I tried to get to know them better.

5.5 Walking on Eggshells on a Boat Cruise

Glen and Jenny's interview took about 12 hours, as Jenny is a prodigious talker and had an enormous amount of material to show me. This was very kind of

her and I invited her and Glen for a ferry cruise the following Saturday. I told one of my friends my impressions of the couple's extreme friendliness and that a readiness to touch me made me feel uncomfortable, but that I felt obliged in some way to show my appreciation for the amount of information they shared with the suggestion of a ferry cruise. My friend said I was paranoid about their friendliness, nevertheless agreeing to go on the cruise. She would be a good chaperone, having a personality like Groucho Marx playing a drill sergeant. On the ferry cruise her humour achieved new value. She kept Jenny and Glen laughing for most of the night. We all enjoyed ourselves over dinner.

We escaped without ruffling too many feathers as the night took a turn for the worse with Glen's continual downing of cans of Victoria Bitter beer. Very drunk, he became prone to holding his fist in my face after I told him I was not interested in his continual requests for a threesome. Calmly saying Glen put your fist away, I ticked him off for not warning me that he became violent when drunk and for his decision to drink numerous full-strength beers on a four hour cruise. Contradictorily at the interview, Glen told me how well the brigade deals with sexual harassment. Jenny had stressed her commitment to feminist ideals and equality. We left him with instructions to be nice to Jenny who was about 160 cm and seven stone. She was going for her blue belt in karate, so she should be all right I thought. As my friend and I ran down the gangplank to her parked car, the question arose as to where their meanings for friendly and democratic sexual interest ended and harassment began. I wondered if word of the night's events would reach other brigade members.

At the next training, the atmosphere was relaxed with an undercurrent of humour. Perhaps they had heard? Finding them friendly, I talked to Vanessa and Heather, who moodily waved a big stick. Glen and Jenny were there and I said hello and asked Glen how he came up on Sunday. He said he was all right and asked me how I was. At training we learnt to calculate the relative humidity and measure wind speed and direction using a wind gauge and compass. Knowing this is important in planning how to fight a fire we were told. If the humidity is low and dropping, then fire conditions are critical and if the humidity is increasing the conditions are improving for fire control. Wind direction is

important, as it shows where the fire is going and where to erect firebreaks in its path and surrounds. Wind, temperature and humidity are also important in knowing the likelihood of spotting. Spotting is where burning embers are blown to an area that is preheated we were told. Preheating means that the bush is surrounded by hot dry air and will be ready to burst into flame. Fire spots are thought to have travelled five to 14 km over the lake in the 1991 fires. Once heat meets water, convection currents drive hot air upwards and embers can travel at a great height. After this talk, discussions followed about the brigade's catering for a local coalmine's annual picnic.

5.6 Women's Work: a Miners' Picnic, Cleaning the Fireshed and the Christmas Party

The miners' picnic was a pleasant if exhausting day. I arrived at 9.30am to find a Lake Macquarie Fire Control van parked beside a marquis sheltering three large barbecues behind a line of trestle tables. Burney had arranged for the brigade to cook onions, sausages and steak. The mine pays the brigade for this service, being the biggest fundraiser all year for new equipment. Women had their place here with Heather, Margaret, Cherie, Jenny, Vanessa and Ann part of a food production assembly line. There were also many men: Glen, Ken, Gabby, Neil, Bill, Bill's son, Mark, Sean, Warwick, Adrian, Reggie, Burney, Phil and three or four others from another brigade (the health resort). I spent the day cooking, refilling tomato sauce bottles and supplying buckets of vanilla ice cream to the brigade food team.

Cherie, Vanessa, Jenny and I started to cook pikelets, which were self-serve and piled with huge dollops of cream and jam. There were too many women for the job and the friction began to mount. I drifted away to butter several pallet loads of bread rolls with Jenny, Margaret, Bill and his son. While we were buttering, we got to eat the unfortunately misshapen rejects from the first pikelet attempts. Cherie made a comment to the rest of the crew about how she was out of work and Bill made a joke about the pikelet and human rejects there that day. There were a lot of jokes told and it was a day that most people enjoyed. After the rolls were buttered, lunchtime approached.

Adrian nominated me as tomato sauce runner. The men had taken control of the barbecues and I helped them by putting steaks and sausages on rolls and filling tomato sauce squirters. If they wanted more sauce they would call out and I would go to the van and Heather refilled and cleaned up my squirter. She washed up and sent me out with things like new tubs of margarine. We cooked enormous amounts of steak, sausages and fried onion until about 3.30pm when the demand died. No one had to pay for the food or drink and no one checked to see who was bona fide miners' kin. There were camel rides, a merry-go-round and other amusements. It seemed a beneficent thing for the state-owned Tiyana Colliery to do.

At the end of the day, those who were interested went 100 metres below ground into the coal pits. Our transport was a heavily built, enclosed steel rail carriage, which resembled a big dipper ride with its number of compartments. The shafts were only around 180cm high and 5.5 metres wide and I kept putting the thought of earthquake and some very recent deaths of a large number of miners in the Hunter region out of my mind. Burney, in his grey miners' kit, gave us an explanation of the various mine activities. When we came up, we had our photos taken in a group. Adrian and the others had packed up all the barbecue gear when we returned which was good as I was exhausted. At the next brigade event, there was no opposition to the culture of women's place … as cleaners.

Practice on this night involved cleaning the fireshed, coordinated by Heather. She had painter's soap to clean the walls, toilet cleaner, mops, buckets and scrubbing brushes. Tonight she was glad of my presence. She called for volunteers for the toilets and I said I would do it. Perhaps she doubted that I would perform the work, when a few minutes later, she called out "where's CC?" and I called back "in cleaning the toilets". She said "ohhhh". Burney and I sugar soaped the kitchen's walls. Heather and Cherie cleaned the rest of the kitchen and office. At the end of it, Adrian came in with a mop and bucket and mopped up our dirty, wet footprints from the rather impractical but elegant pale grey floor tiles. A small group of mainly younger men hung around outside and

talked, practised unpacking the trucks, but did not help. The brigade Christmas party was also women's work.

I arrived to find Heather decorating the fireshed with balloons and streamers. She had Santa Snowed the bathroom mirrors; plastic wrapped the tops of the toilet bowls and organised tables and food. She looked pleased to see me and left me to butter bread so that she could go home and have a shower. Glen and Jenny were the next to arrive. Jenny looked as if she was straight out of the jungles of Vietnam in a khaki camouflage baseball hat, black T-shirt and combat-style khaki nylon tracksuit pants. Other members started to roll up. It was a pleasant night with no barbed comments or fights. Apart from members, there were a lot of young children, wives of members, Heather's husband, several old ladies from the Arrawonga Progress Society, one mother with a stroller and two dogs. Steak that was left over from the Tiyana Colliery thawed in the brigade's microwave for a barbecue. Heather produced a sponge cake and Narelle, Burney's wife, brought homemade pavlova. I brought a large bottle of lemonade and a big bag of corn chips, which I fed to the children. People sat around and chatted. Here, there did not seem to be any noticeable segregation of men and women. I had another Christmas party to go to and at about 8pm, I apologised to Heather for not being able to help with the cleaning up, thanked her for the party and left. A test for firefighting certification moved me from the domain of bushfirefighting cooking and cleaning.

5.8 A Rite of Passage

I arrived at the Wyee fireshed for out tests to become firefighters. The shed was not as impressive as ours in construction. However, it was large and had air-conditioning. This club appeared far more competitive than ours, with many trophies for firefighting competitions. There were two other women and ten men. I compared this to my initial briefing with Glen and Ken where there were equal numbers of men and women. The gender ratio was falling closer to the percentage of women firefighters in Lake Macquarie (11.5%). We spent the morning learning first aid (mainly bandaging, heart massage and artificial resuscitation). One of the all-male first aid instructors was a nurse and the other drove an ambulance. I passed the test to and could now go out on fires.

5.9 Two Fires

Not long after, at about 3.30 pm one Wednesday, Burney rang and asked in a casual and pleasant way if I could go out to a fire. When I arrived, the mood was buoyant. It was an enjoyable afternoon as I found the burning bush picturesque. Strong sunshine filtering through smoke gave its characteristic golden fairytale light. An iridescent orange line of flames moved through, leaving behind black and grey undergrowth with twists of spiralling smoke. Silken grey smoke twisted through grass trees, banksias and other scrub such as the crimson feather duster shaped and sized flower of the Gymea lily. These lily flowers sit on a broomstick-sized stalk growing out of metre tall clusters of broad, ribbon shaped leaves with pointed tips. The ornamentals grew below gums, some giant red gums with snaking branches and milky, orange bark (*angophora)* and others grey and chalk white eucalypts. Fortunately, because their papery bark and oil content make them so flammable, there were no beautiful groves of paperbark ti-trees.

We joined two other volunteer fire trucks and a reconnoitring four-wheel drive. Burney in another four-wheel drive drove around the square kilometre of burning bushland assessing the situation and talking to the driver of the four-wheel drive and the other trucks on a hand-held radio. We moved into firefighting mode along the edges of a fire trail with hoses on the front and back of the truck to put out the perimeter of the flames. I did the same things as the rest of the male crew. This was hard and often, due to the smoke, tearful work. I worked with a McLeod tool (a firefighting type of hoe with rake-like teeth and a sharp edge) raking humus and dead wood into the fire to form a break of bare earth. Men with hoses damped down the perimeter to make it unlikely that the bush on the other side of the fire trail caught fire.

We moved around to the fire front. We found a track, cleared it of dead leaves and set the bush alight. The flames from our fire were sucked into the convection current of the other fire. The two fires came together and having nowhere to go, died down, constituting a backburn. It was a mild, late winter's day with only a tiny breeze. To minimise fire spreading if it got hot, windy and dry the next day, we worked around the charred outskirts, "mopping up" anything still smouldering using water from hoses and trampling with our boots.

The fire did not crown and only the scrub burned. Resonant with the adrenaline buzz described by my informants, I experienced a sense of elation from the scene.

My feet seemed propelled by cushions of air in a scene resembling fairyland, as the smoke and orange line of flames were so strikingly beautiful, twisting through grass trees, pea bushes and banksias. Perhaps there is a primordial euphoric response to fires medical researchers have not explored... the feeling was unlike anything I had ever experienced. As the fire was so slow moving and low in intensity, there was no sense of danger, only its beauty. I asked if this was a fire lit by a firebug or a hazard reduction. One firefighter said he did not know and no one else replied. At the next fire, the fire's type was identified. In terms of gender boundaries too, firefighting proved an interesting experience.

The next fire was a hazard reduction burn around a rifle range. We were told to be at the fireshed by 10am. There was a wait before we could leave because a second vehicle from another brigade was necessary for the burn. There was another delay with much discussion because Victor wanted to come. Despite obesity that would be dangerous in a critical incident, he was allowed on the truck. We headed off and I had Gerry as a driver. When we arrived, most of us stood around watching as several men busied themselves with hoses. There was one other woman besides Heather and myself, and as the girlfriend of Greg, who joined after I did, one of our newest recruits. We stood around watching. It seemed as if holding the hoses' nozzles was more important than looking after them as it took about 15 minutes for anyone to notice that two hoses were on fire. Many metres were charred and smoking from pulling them over burning clumps of grass and bushes without noticing. Another inquiry followed, according to Cherie, because it is well known that dragging hoses over either rough or smouldering ground damages them and they are expensive to replace.

At lunchtime, Heather appeared. Her signature black leotard and décolletage created a fashion statement under her yellow overalls. "Good man" Burney said

with a smile as she produced sandwiches and drinks. There was an unexpected extra man from another brigade and there were not enough sandwiches to go around. I said he could have one of mine, a decision I later regretted when the hard work of hauling a hose left me starving by mid afternoon. I did not get to participate until after lunch when I asked Burney if I could go out with Phil and Warwick. The other women appeared untroubled by their exclusion and were happy to watch. The team I was in had two young men I had never seen before. Phil was our leader.

Initially, we attempted to burn rainforest at the bottom of a gully. I warned them that it was too damp to burn. They continued to try with no success. Finally giving up, we moved up an embankment to drier ground, burning. It was hard work because we had to haul long thick haul hoses full of water. We used drip torches to set bush alight. Drip torches are small tanks of super grade petroleum and diesel, which are carried with a metal handle in a similar way to a watering can and used for lighting backburns and firebreaks. At one end is a long spout to drip fuel. This fuel trail is lit with a burning wick fed by the fuel in the drip torch. There was a lot of smoke, which made our eyes water and sting. Once the fire front had moved through, we put out the remainder, first hosing and then trampling and kicking tussocks, logs and other vegetation. Burney put me on the first aid reel (a type of hose made of poly vinyl chloride or PVC which is stored on a reel on the truck). Both young men put me under close surveillance, issuing numerous directions on where I should point my hose. Perhaps my asking for confirmation on how to change nozzle water flow led to the situation where we negotiated my movements. At first I was blindly obedient and then realised that they were preoccupied with my supervision rather than performing their own tasks. Their advice did not always match my training and knowledge from the manuals. The standard drill is to minimise water use. To do this, firefighters are trained to "attack" the fire front with a strong jet of water to cool down an area to get close enough to work. A line is established in the "attack" by moving the jet down the front's fire line or the line between the flames and unburnt bush. Water is directed into the burning material itself rather than the flames. Once hosing with a jet has reduced the temperature enough for a firefighter to move close, the nozzle is changed to a spray, which

is also directed *along* the fire line and into the burning material. Spraying *across* the fire line or into flames is discouraged as uneconomical water use. Hosing continues to erode the fire until it reaches a smouldering heap. Once I explained this, the young men's enthusiasm for directives died. I did not ask the reason for the silence. It could have been exhaustion or perhaps I had won their approval I thought, as it turned out, wrongly.

We hauled heavy hoses uphill, careful to have someone behind nozzle holders to ensure rough ground did not damage hoses. Having worked alongside carpenters on my six house renovations and being fit from years of karate, I kept up with the young men. This did not endear me to them. In the last stages of "mopping up", I picked up a rockmelon sized piece of glowing charcoal. I was wearing thick leather rigger's gloves and no heat penetrated. The two young men called me to Burney's attention as I hurled the ball away from me to the ground, and then walked over to stomp out the shattered pieces. "I *suppose* she can do that," he said resignedly. It was a much safer tactic than kicking the ball and risking an explosion of embers in my face. Burney lifted a burnt log and showed me a large bush rat, which scurried away into the unburnt bush unhurt.

On the return trip, I found the back of my truck deserted. The rest went back in the other truck. I felt disappointed that no one wanted to travel with me. Terry, my driver laughed and said, "you'll have to cook dinner too". I was tired and went to sleep. There was plenty of room. Interestingly, when I interviewed Terry and asked his thoughts on women fighting fires, he had said:

> I think that women can fight fires. If they can't pull hoses around and things like that, they should realise it and not come. I don't have any trouble with women fighting fires, so long as they don't expect to have doors opened for them as well. I don't think women should be treated any different, or be any different.

Back at the shed, I was exhausted but also starved. I had worked hard on one sandwich and cook I did. No one else had lit the barbecue and I got the sausages and rolls ready. The atmosphere was not too unfriendly when the others returned. They too, were noticeably exhilarated by the fire and chatted

and laughed. Before I showered, Heather told me that she always keeps conditioner and other toiletries in her locker to get the dirt off. She was clean, having been an observer. Like the Christmas party and cleaning the fireshed, the sandwiches were due to Heather's efforts. At the next training session, my popularity improved briefly.

5.10 Training and Two Meetings

I arrived just before dusk as Terry finished mowing the acre or so of grounds around the fireshed. Over the road, Ann's Dad was just finishing their front nature strip and there was the feeling of spick and span ordered suburbia. One of the trucks was off fighting a fire with Heather aboard because I recognised her 4WD in the car park. Instead of worrying about setting up a barbecue to bond, on the way to training, I bought a hamburger for dinner. The cheap sausages the brigade provided were indigestible in the hostile training environment. We practised the first aid and resuscitation that I had learnt at Wyee. I was surprised how quickly I had forgotten some of the points. I felt one of the gang at this meeting and people gave signs of being glad to see me. After we had practised first aid for some time, Ken said we could break up. Terry and Ken discussed their annoyance with new regulations about driving licenses for the trucks. It seems the brigade no longer makes provision for members to be taught to drive a fire truck. They have to learn the skill on their own resources. After complaining initially, Terry said he didn't mind because it would stand him in good stead to have a truck driver's license. Other problems besides licenses were described at the brigade’s monthly meeting.

At this second meeting, they discussed issues relating to funding and organisation of fire call outs. At the moment, we were told, the system for paging is ineffective. There were also problems getting drivers during the day as Gunter Richards had just got a job and no one could drive a fire truck until after 3.30pm. They discussed problems with a new proposal for driving licenses through the brigade. For the first 12 months, drivers can only drive fire trucks and then they can drive other trucks. Adrian said philosophically that considering such handicaps, things were not going that badly. The next training was in April.

5.11 Training

I brought butter cake with lemon icing and I think they liked this as most of it got eaten. We went out in Arrawonga 3 to the pony club oval and practised pumping water out of the creek. There was a bit of trouble getting the petrol driven pump going but we got the hang of it and off it went. After this we practised putting out gas bottle fires. This uses a team of five: a leader in the middle and two nozzle people and their backups holding the hose behind them. Ken took us aside and we watched the other team. He discussed how they could improve and how to roll out a hose without getting it tangled with other hoses. At our first attempt, we got the hoses tangled, but after that things ran increasingly smoothly. We also practised switching the generator on and off for the lights. Perhaps the research journey through bushfirefighting might not seem so long, I thought as it turned out, wrongly.

5.12 Fire Crackers at a Local Boy Scouts Hall

This was a bad night as Heather took control, insisting that Mark who was the most senior stand down to her as leader. The other women were not allowed to do anything but watch. Heather yelled at me, ignoring Tegan, a more experienced bushfirefighter, for not doing the same thing, which was having the crew's jackets in the truck ready to go at 4.50pm. It was the first that I had heard that this was my job, but I let it pass. Greg's girlfriend glared rudely at me as she passed a coat for Victor across the truck. They called each other f…ing c…ts repeatedly over the truck's intercom and laughed a lot. At the Scout Hall, Nadia gave Tegan and Greg the job of holding hoses, ready for any fires from the fireworks. I escaped the tension by climbing to the top of the truck with two little boys. The side of the truck boomed as Heather thumped it forcefully, drawing onlookers' attention. She bawled at us to get down. The truck was parked about five metres behind Tegan and Greg holding the hoses, a safe enough place to sit I silently thought. The journey looked again. At the next training the atmosphere did not improve.

5.13 Arrawonga 3's Pump Breaks Down

Once again this was a night where a few men did things and the rest stood close by in a pack, clinging to a truck with nothing to do. I stood and watched. While a crew busied itself with different manoeuvres on Arrawonga 2, there was to be a foam demonstration with Arrawonga 3. It would not pump foam,

probably because of a blockage I was told. Heather and Greg's girlfriend did a few minutes of paperwork: a letter and filling out of who was in attendance in the office. Eventually, it was time to go home. At the next training, things did not improve.

5.14 Farewell to the Big Happy Family

I arrived early to interview Jake Simms. The phone rang in the fireshed office, but we did not know how to answer it. We got some of the interview done. Jake told me about his times as a bushfirefighter. His family had a tradition of involvement in bushfirefighting and State Emergency Services. Jake had been in the 1993/4 fires and described the long arduous grind of firefighting. Phil and Warwick arrived. Phil looked hyped up and threw some jackets and one helmet into the truck. We got in, there had been a car accident and the brigade attends these to put out fire and direct traffic. As everyone had helmets, I put on a jacket and the helmet and sat in the back. Heather arrived and got into the truck. In her usual aggressive style, she told me off for not putting in helmets for her and Adrian. Adrian who had arrived shortly after her, agreed. Previously, it had been jackets, now it was helmets. This was the first time I had been told to put helmets in and to know how many to do this for. I let this pass too, not long to go before the fieldwork was completed. Jake Simms was at the wheel. Out on the road, Heather asked, "who's driving"? I told her. A few minutes later, Adrian complained that he thought it was Gabby driving and that he did not like Jake driving their truck for the first time. I wondered about the validity of this objection; Gabby smelt strongly of alcohol on a previous training night before he got behind the wheel. Jake was sober… Was it another example of struggling for power? When we arrived, Adrian angrily said it took too long to get to the accident. "I'll kick his arse when we get back," he ranted.

There were already brigade members at the accident scene… Greg's father, Greg and his girlfriend, Ken, Vanessa and Tegan. We stood around watching Adrian. I asked why call out so many people when we just stand around? The crashed cars could catch alight I was told. Adrian put down some Dry Sorb, directed traffic, shone a torch and then swept up the Dry Sorb. On the way back, Heather bitingly called Jake a f…ing jerk a couple of times. He had made a U turn on a T-junction where the accident occurred she said vehemently.

Accidents at the spot are common, but there were no double lines to make the turn illegal and no sign of other traffic to make it unsafe. We went back and practised rolling out articulated hoses.

Articulated hoses weep water through membranes to make them safer in bushfires. When empty they flatten into thick ribbons. For storage, they are dried and rolled into large discs. Rolling out is done by holding the coupling (an attachment for connection to pumps) with the right hand and sitting the perimeter of the hose's disc in the curve of the arm. The arm is dropped and the hose rolled out with as much force as possible to get a straight line. Following this, we went into the fireshed and Timothy asked us questions and talked about how the friction in hoses increases the narrower they are. We discussed different scenarios and the different fittings needed. He talked about breaches, which are usually y-shaped and for changing from threaded fittings to unthreaded or storz fittings to connect hoses. Adapters are for joining a bigger hose to a smaller hose. We also discussed the drill for arriving at a fire: first fit the standpipe and then connect hoses. He explained the new non-articulating hoses for more pressurised pumps that are on Arrawonga 2. Arrawonga 2 does not take the smaller foam nozzle, only the larger blue and red ones he told us. During the talk, Heather interrupted frequently, telling Timothy he was a jerk who did not know what he was talking about. Timothy calmly kept talking… more hidden power agendas? Timothy, a deputy captain, was in a brigade whose members characteristically had not finished high school and he was the only active brigade member with university qualifications. Perhaps, this was the reason for the hostility. Perhaps Heather's move to push others aside was the strategy that she described in her half completed interview of "really kicking heads to get ahead". She had pushed aside Mark to lead the crew and humiliated me at the fireworks. Whatever her motivations, it was Timothy's turn to deal with elbowing.

At the next training, it turned out that Timothy had complained to Ken about Heather's behaviour. Ken discussed the difficulties this created for Timothy and told us that this should not happen. Timothy looked appeased. We hung around and then went for a ride to Brigalow with Mark to fill up Arrawonga 3. He

smelt of alcohol. Heather talked about a long list of problems that had been given to her to send in to Fire Control to justify replacing Arrawonga 3. I asked Timothy if the truck was safe for people in a fire. “Yes,” he said in a self-consciously official tone, “but it is unreliable and the pump sometimes fails.” I thought this sounded dangerous, as a truck with an unreliable motor and pump may cause injury and death. Mindful of the sudden disappearance of Tom Bushell and its indication of the hidden agendas of the brigade’s power brokers, I kept such thoughts to myself.

As the time of my fieldwork’s end approached, I decided that it was safe to bring up the subject of the brigade’s many conflicts and the problems they present for safety. If they decided to get rid of me now that I posed this question, it would be time to go anyway. Before training, I finished the interview with Jake. Jake said infighting is part and parcel of firefighting and that he is always ready to fight people off. According to him, he had circumvented Adrian’s threat of tearing strips off him by tearing strips off Adrian first. Adrian should have been wearing a helmet and coat when he was directing traffic and sweeping up broken glass at the car accident he explained. Furthermore, Adrian also gave him directions to park the truck in the wrong place. I told Jake about my safety concerns: backbiting, lack of team building, people looking for a chance to slam others without maintaining safety standards themselves and accounts of fisticuffs to settle disagreements over group strategy. Just then, the sudden sound of feet heavily crunching gravel and voices came from right outside the spot in the fireshed where we talked. Only a layer of fireshed Colourbond screened our voices. Phil and Warwick burst in through a side door next to us. There had been no sound of a car or the usual slowly growing noise of footsteps as people arrive. Perhaps the conversation had been overheard? We watched videos about motor vehicle accidents, fire behaviour and fire extinguishers. At the next meeting, my suspicions of an overheard conversation grew.

The first words on my arrival were unnecessarily abrupt I thought. "Christine!” Phil bawled deafeningly, “put a 65 hose on the back of the truck and run!” Timothy said, "please" reprovingly. Firefighters are taught not to run, but to

move quickly and deliberately in these exercises. I did not point this out, but ran as I put the hose on, amid scornful looks from the brigade. We did two drills with two 38s and a 65 hooked onto the back of the truck with a foam nozzle and a curtain nozzle. Phil bawled at me to run again; I ran. We practised different applications for different fires. We practiced the procedure for gas fires (without the gas fire) spraying water, using jet and fan nozzle settings. Next, was the scenario for motor vehicles, which are extinguished with foam from a jet nozzle setting and burning tires with water, on a fan setting. It was a humiliating night. Greg's girlfriend Denise also bawled at me, at first for things that I did correctly. At her last screech, I had indeed made a mistake. I had been sent off with Timothy to clear out a fire hydrant and neither of us was wearing gloves. Denise appeared in the darkness behind us as I dug out mud and leaves. A spider could bite me, she shrieked.

Not long before, the morning after I interviewed Cliff Bushell, I found a white hen with its head cut off in my front yard. Cliff at his interview had been telling me about the local tradition of keeping chickens. I told him about a white leghorn rooster I owned that attacked me until I chopped off its head and cooked it for soup. At a later visit, Cliff's wife commented that one of their chickens had disappeared. The giant 15-year-old had been at Cliff's home at the time we swapped chicken stories; more overheard conversation? The 12 months allotted for fieldwork was over. At the training session following the night of yelling, I gave them a carton of Coca-Cola as a parting gesture, thanked them for their participation, explained that I had completed the time for fieldwork and went home. It was time to move on in this inductive examination to further contextualise the bushfire problem.

In the next sections, induction as a guiding research principle yields further images of the unexpectedly catastrophic consequences of struggles over location. This contextualisation is carried out because, unlike the Cessnock women, informants from Arrawonga rarely problematised gender divisions in their narratives. Many were inarticulate and left questions about the bushfire problem still unanswered. My observations revealed arbitrary and tight divisions between men and women and hegemonic gendered identities. Women who

gained acceptance had “to know their place”… something I found too compromising to accomplish. More data was needed to fill in unexplained questions about bushfires, bravery and social boundaries.

As the Arrawonga brigade fought over social location and bungled, the social boundaries dividing spheres inhabited by white men and women emerged from their accounts as primordial mysteries. Amongst the women, only Heather with her provocative behaviour and appearance managed to cross gender boundaries to lead men. Cherie voiced her frustrations at always learning too late the opportunities available to her if she stepped outside the gendered expectations that she cultivated since childhood. Jen described feeling like a warrior as she sought the inner calm of bushido in her struggle to live as a feminist in an unnaccepting social location. The other women acted as followers, albeit prone to fits of temper. Acceptance and a place in the brigade involved the political intricacies of following the interests of those already in positions of leadership. The manoeuvres made the brigade a place of fighting amongst themselves and against an often-invincible enemy, fire lurking in the bush and its accompanying death, injury and environmental and property damage. The brigade had a motto of fighting like hell-cats; apt, but in their struggles, the aim of bushfire mitigation fell by the wayside as hoses burnt, a pump run dry blew up, Cliff Bushell developed PTSD, a koala colony died, a fire truck caught alight, and, without adequate fuel reduction, bushfires proved unbeatable. This culture of conflict, bullying and even physical fighting in disputes is common in the RFS according to numerous informants. Peter Cochran, a former mayor and NSW Parliamentarian talked to me during a horse trek to inspect alpine ash damage in Kosciusczko National Park. He presented evidence of bullying to a federal parliamentary inquiry in 2003. As a former member of the paid hierarchy of the Department of Bush Fire Services, he said he found the problem of conflicts so deep-seated that they made day-to-day decisions poorly based. Combined with problems with the NPWS, these have had catastrophic consequences for rural landholders.

> National parks are the neighbours from hell. They buy you out if you’re in trouble after they’ve burnt you out or their wild dogs have eaten too many of your sheep to remain viable. I know of

> several cases where the NPWS bought out people this way. Some were so financially close to the bone they had to sell up. Together with the RFS, they are more disasters for rural people to cope with.

He said his family had weeks of terrible fear of financial ruin as national park burnt around their property, but no great calamity hit them. A nearby neighbour was not so lucky.

Noeline Franklin said her family has been fighting to survive financially ever since. She described the 2002/3 fires destroying fences that the NPWS would only pay the costs of the wire and posts to replace. Before this, electric fences and guard dogs gave almost complete protection from the park's wild dogs she said angrily. Noeline said she cashed in her superannuation money to buy new stock to get the farm out of trouble. Dogs killed 30 newborn lambs and her heart almost broke she told me.

> The biggest expense for fences is the labour. My husband has to work outside of the farm to feed the sheep that the dogs eat because we've lost our fences and while he's away I run the place. After the fires, the sheep were on full rations at about 60 cents each a day for 350 sheep. I still have to hand feed them with a bucket. On top of everything else, putting in fences is too much. Despite guard dogs and trapping, we've lost about 700 sheep and we don't know how many lambs.
>
> (Noeline Franklin personal communication 2006)

With mounting anger, she described devastation in the adjoining national park where bush was once full of small birds such as finches and wrens and where lyrebirds were common. Not particularly mobile, these birds are poorly adapted to escape anything but cool burns she said. She described one farmer telling her of a weird spectacle of a carpet of dead small birds about an acre wide after 2003 fires hit Omeo in Victoria. Descriptions of such hardship were common amongst informants. Accounts of the inner workings of bureaucracy showed indifference to such preventable calamity. Andrew Thomas, a former Rural Fire Service incident controller pointed to a toxic culture in NSW.

Cronyism and bullying run through both the NPWS and RFS. In the RFS, university qualifications at the paid, senior level are very rare. I know of only one person with a PhD and this is in environmental science, a field that often has a philosophy against hazard reduction. The most appropriate qualification for a senior RFS position is bushfire science. Most senior staff only have certificates to qualify them as bushfirefighters, so the intellectual standard is not as high as it could be. This, along with the culture of power broking and bullying adds to fire's dangers. Once a Section 44 is declared, a huge bureaucratic machine starts up. The RFS gets a blank cheque to spend as much as it wants and all sorts of powers to enter land and force people to evacuate. People often have never worked together and incident controllers change every few days. Using the prescribed guidelines for bushfire mitigation or bushfire textbook knowledge is the exception and seems to be covertly discouraged as rapidly extinguishing fires will not draw funding and publicity. There are supposed to be two systems similar to the military for devising strategies using risk analysis and past experience. I am the only one I know to use them. More time gets spent in political infighting to hold a position of power than in seeing that services are of a high standard. Knowledge sharing and think tanks are low priorities because conflicts take up so much time. Instead of knowing about firefighting, the service attracts people who are good at the political stuff. A huge empire is unnecessary if there is not a huge problem, so it pays not to make decisions.

There has been a massive explosion of paid staff to 690. From about 80 in 1997, political players tended to fill the new positions. They become a success and they hang on to their new status like grim death because usually they are from humble origins and they have been given the chance of a lifetime. Amongst volunteers on urban fringes, there is an ethic of head kicking and networking to gain control. Captains and deputies are often

ruthless. It takes a huge effort for them to keep networks in place to be elected and then re-elected each year. It's an unhealthy place to be. I know of four beside myself who are being bullied. Koperberg has been running a fest for his cronies and as I had control of finances and queried things I became very unpopular. Within the RFS, people who ask questions and show signs of being critical are given the squeeze.

These days, the insurance industry pays 72% and state and local governments pay the rest of the RFS budget. Insurance companies have no say in how bushfires are mitigated, but get an annual bill that they have to pay by edict. If the bushfire budget goes up, so do people's insurance premiums, so insurance companies have showed little concern over what is done because they still make profits. I wouldn't let the RFS buy a twin engine turbo prop King Air that they were pushing for over the last three years. They couldn't give me a good reason for the purchase. Scams like this are perks for the cronies and cost the taxpayer and insurance holders a fortune.

Helicopters are used to give friends and family joy rides and to impress visiting dignitaries. Choppers cost thousands of dollars an hour to run. They are often used once a section 44 is declared when it is too late to extinguish a fire so they waste money. In one case, a dignitary from Malaysia was treated to a helicopter tour that I had to do the paperwork for. It cost Hornsby Shire Council's bushfire funds about $10,500. Sometimes the budget for helicopter hours gets used up before a fire is put out and then they are in big trouble. The commissioner has just got new Vogue Living offices at Homebush. The move of headquarters from Rosehill cost a fortune.

The former incident controller described a long history of harassment from paid hierarchy after he called attention to a need to extinguish fires in a national park that was the responsibility of another incident controller. Andrew angrily

radioed the incident controller saying that the fires might become a threat the next day. This man insisted on leaving them to smoulder overnight. Many informants echoed his concerns over the use of aircraft after the declaration a Section 44. Research confirms the lack of scientifically proven knowledge of when and how to water bomb, the likelihood of wasted resources and the need to understand the parameters of effective water bombing (Milne & Abbott 2005:7). According to Andrew, while conflict was considered normal, Andrew's stance on preventing risk was so contrary to the organisation's culture, that he was never appointed again as an incident controller. By contrast, the other incident controller was promoted from superintendent to regional manager.

Pointing to the added risks of *laissez faire* strategies to maximise survival chances, Penny Sutherland, Kurt Lance, Ralph Barraclough and other rural volunteer firefighting leaders described bushfire mitigation strategies that calculated risk through accurate understandings of fire behaviour. These evidence-based decision makers described strategies comparable to those developed by war analysts discussed earlier (see 2B.1, Strachan 1983: 1-7 & Plato circa 370BC 1924: 85-111). Arrawonga informants such as Burney, Jen and Glen did not have the same level of well-informed decision-making and their fire experiences were far more harrowing… Cliff developed PTSD after an incident because he felt out of control. Nor did transcripts from coronial inquiries and inquests refer to or demonstrate bushfire service hierarchy's use of risk analysis strategies. Despite this evidence of the benefits of risk analysis, a majority of volunteers and landholders complained bitterly that bushfire services bullied those who used it. As RFS paid hierarchy, Andrew's attempts to improve operations with the principles of risk analysis proved another disaster as it brought harassment.

His complaints about harassment brought more heavy-handed treatment he told me and he had to leave before he collapsed psychologically. He described coping for many years until one issue proved to be his Achilles heel. His wife was also a state government employee and suffered debilitating depression from harassment following her complaints about incompetence at Westmead Hospital. Her physical health too was seriously affected and at one stage

Andrew feared that she would die from a blood clot in her lungs. The RFS refused to grant him leave to take her for treatment and then disciplined him when he took the time off. Andrew said a Workcover inspector who handled his complaints of harassment and bullying was suddenly told to drop his case leaving the matter in limbo. Reports such as this also came from two informants who described a culture of bullying in the CSIRO. Their attempts at evidence-based solutions to the bushfire problem had called attention to political agendas leading to poor decision-making in scientific research. In this milieu of conflict and tensions, as paid hierarchies and volunteers grappled over the basis of decision making, once on the same ground Aboriginal men, women and children and early settlers hazard reduced as mundane chores.

Using ancient bushfire mitigation technology, wildfires were rare and far less dangerous. In bushfire services' literature, there was no recognition of this Aboriginal knowledge. In the conservative, predominantly One Nation voting area of Arrawonga, there were no self-identifying Indigenous Australians amongst informants or reports of knowledge of Indigenous Australian management of fire. No one except Cliff replied to my questions about whether he thought Aborigines used fire stick farming to mitigate bushfires. He had quickly repeated the opinion of bushfire service literature (see NSW Rural Fire Service 1998: 23) that southeast Aborigines might have burnt, but they could not have known that this would control bushfires. According to this theory, hazard reduction's importance had spontaneous origins as a discovery of bushfire scientists in the mid 20th century (see Griggs 1998: 69 & NSW Rural Fire Service 1998: 23). Because of its oppositional nature as a claim to knowledge, Indigenous fire stick farming is an area so far emerging as a knowledge gap in this thesis.

This late mention of Indigenous issues in the next chapter is not intended to detract from the problems of racism. As a guiding principle of inductive research logic, Aboriginal data and its subsequent scientific assessment provide "breaks" with the appearances presented by Arrawonga brigade informants and bushfire service literature. This break with appearances to examine intuitionism and assumption is part of the inductive principles

advocated by Bourdieu et al (1968, 1991: 15-25 & 57-69). The discovery of a large body of evidence on the relevance of Aboriginal land management came after an Aboriginal student expounded its importance during my archival search on gender and bushfires in a library. To avoid the appearance of divining the nature of the bushfire problematic in advance, Indigenous people's place after white women is in the stage of data gathering where its significance emerged. Its placement where it emerged, highlights the invisibilisation of Indigenous Australian knowledge in the bushfire/bravery problematic and bias against it. Methodologically, this placement to explore contradictory claims to knowledge demonstrates the explanatory depth and accuracy induction brings to analysis and its subsequent epistemological contribution. The inclusion of Indigenous knowledge expands the epistemological couple explored so far to black/white/male/female and highlights the barriers that social boundaries pose to problem solving.

The following contextualisations act as foils for the themes emerging so far. More paradoxes concretise. Discourses of two emancipatory struggles against white men contradict implicit meanings of heroes in the growth of a white male icon of bushfirefighting bravery. This icon's growth is underpinned by the loss of Aboriginal knowledge of bushfire mitigation, the amplification of white males and the diminution of white women and Indigenous Australians. I am interested in the contradictions of bushfirefighting as an Australian myth and a white male preserve. As a demonstration of courage, bushfirefighting has become a means of gaining status and class to transform mythology into knowledge claims. I locate bushfirefighting and Indigenous and feminist struggles in the microfilm records of the *Newcastle Herald and Miners' Advocate* and its associated regional publications from 1881 (the year Arrawonga was proclaimed) to 1981.

Using feminist and Aboriginal activist newspaper articles and research on hazard reduction as further foils, hegemonic elements emerge from three discourses of disaster. The gendered and racialised boundaries of these three discourses are the embodiments of social facts; facts, which have been shown to have arbitrary foundations (see Brownmiller 1985, Lloyd 1984, Malinowski

1922, 1992 & Bourdieu & Passeron 1970, 1990). I look at the impacts of changing ideas over time. As tensions between white men and women emerged as an issue in this and the preceding chapters, and so that the flow of analysis of a white gendered social system is unbroken, white women in newspaper discourse introduce the next chapter. Discourse around Indigenous Australians' emancipation follows in the chapter's second half.

CHAPTER SIX

Discourses on white women and Aborigines are weak trickles compared to those on white male iconic bushfirefighting bravery, which in turn are only a tiny subset of the *Herald*'s overall focus on white men. Discourse around Indigenous and white women's emancipatory struggles problematises and diminishes them. It is only in the early stages of World War II that white women briefly enjoy discourses of unreserved bravery. After this, their emancipation resumes as a problem with issues such as the declining white birth rate compared to the soaring rate of half-cast Indigenous Australians.

6.1 Bravery's Discourse as an Arena for Competition over Social Location

In this chapter, I show the value of addressing bias, contradictions, assumptions and knowledge gaps by questioning competition over social location. What is considered a disaster? Who is said to experience it? Who is said to be brave? As I showed in Chapter Two, apart from the susceptibility debate in PTSD literature, mainstream analyses of disaster are treated as gender and skin colour free. Contradicting an implied level playing field, white men take the research foreground to focus on white male governed spheres. Excluding Indigenous and feminist struggles, practitioners within mainstream disaster paradigms (including the media) locate wars, large-scale accidents such as oil tanker spills, floods, and fires within the boundaries for the meanings of disaster. Identities imbued with notions of class, ethnicity and gender are rare and outside of mainstream paradigms (see Enarson & Morrow 2000: 1-8 & Finlay 1992: 1 & 95-6). In the field of bushfirefighting, poorly based decisions, policy, legislation and infrastructure accompany a struggle to preserve white male pre-eminence. The ways braveries with an Indigenous cast have been swept aside and white, feminine braveries subverted are examined further in this inductive analysis of the *habitus* of bravery and bushfirefighting; the correctness of claims of a white male icon's bravery is probed.

6.2 A Small History of Newspaper Articles Reflecting on Emancipation 1881-1981

6.2A.1 Discourses on (White) Female Bravery

In the early 1880s, the Hunter region's newspapers painted a grim picture of the cruelty that could befall white females at the hands of white males. A male employer threw a servant girl into a fire, scalding her with boiling water and beating her (n.a. 1881). Murdered women, women's suicide, the need to lock up women for their own safety and embodiments of females' lesser power and rights peppered editorials. Written as statements of women's fate, these stories were trickles compared to those on white men and pointed implicitly to female inconsequence in the *Newcastle Herald and Miners' Advocate* and its associated publications. This was a marked contrast to the careful and lengthy documentation of white men's struggles in mine disasters with its subtext of their greater consequence and ability to determine their own fate. Occasional and brief stories ran on the "ladies franchise". In a report of 181 graduates of the Women's Medical College of Philadelphia, women doctors said their career had a positive impact on their marriages (n.a. 1889a).

For Australia's Hunter Valley however, the region's highest circulation daily newspaper, the *Herald* considered training women as doctors took equality too far. "Women and Work", described women as deserving to work, *but* in the domestic realm, which best suited their talents. There, they would not pose a threat as lesser-paid competition to male labour (n.a. 1889b). The curious notion of women's limited work capacity nevertheless being a threat to male employment was one that continued until World War II in the *Herald*. Similarly, education was also condoned, but with limits. Boundaries did not exist for the right to vote according to the *Herald*. In women's variegated social locations, and with the exception of the immense homage paid to Queen Victoria, the furthest white women went in these editorials was in vocations such as the wife of the mayor officiating at functions, opera singers and school principals. Apart from plentiful advertisements directed towards women for products such as soap and millinery, short romantic stories and stories on domestic pursuits, a

five-year silence followed the 1989 franchise story with its prescription for social locations lower than men’s.

In 1894, women's right to vote had another sympathetic and brief mention. Until this point, stories on women tended to those of genteel suppers and teas with exquisite details of brides, catering, dress and church activities such as this article of 1896 in Merewether, a beachside suburb of Newcastle.

MEREWETHER

TEA AND CONCERT

> The annual tea meeting of the Welsh congregational church was held in the church on Thursday evening. It is estimated that nearly 600 persons sat down to tea. The following ladies were assiduous in their attention at the tables:- Mesdames Thomas, Evans, John, Edwards... The programme was as follows:- Overture, Miss James; song, "The Blackbird," Mrs. Parker; song, "Nazareth", Mr. Thos. Chandler: song "The Land Beyond the Seas"...
>
> (n.a. 1896: 5).

Also in 1896, two brief stories appeared on women's suffrage "Female Suffrage - Deputation to the Premier" and "Effect of Women's Franchise in New Zealand". The next year, there were four stories on women's suffrage, followed by two the next year, one the next and seven in 1900. The variegations of women's status could reach great lows as shown by, "Alleged Outrage in Newcastle" (n.a. 1900a). The article described between 10-15 men heckling and tearing a woman's clothes in a Newcastle lane. Another woman called her husband to intervene. When the police arrived, the victim was arrested for drunkenness and fined five shillings. No inquiries were made about her ordeal because it was alleged she was a known companion of Chinamen. There were no follow up stories of her fate, but emancipatory stories reached an unprecedented high next year.

In 1901, there were seven more stories on women's suffrage. These were comparatively long, taking about a column of a broadsheet. The most dramatic was titled "A Fight to the Finish" (n.a. 1901) and filled an entire column. The

article described the Woman Franchise Bill (sic). The NSW Parliament's Legislative Council (or Upper House) blocked the bill after a general election and the Legislative Assembly (or Lower House) had passed it. Upper House members rarely seen in parliament attended the debate in order to add numbers to the block according to the *Herald*. One Upper House member cited 6,000 women's signatures on an anti-franchise petition. The *Newcastle Morning Herald and Miners' Advocate* argued:

> ... if he (Mr. Want) had given the matter proper consideration, he could hardly have been the subject of this belief, for he must have known that the signatures were obtained by an organised system of whipping-up that was complete in all its details. In Sydney, facilities for the signing of the petition were provided at many of the street corners, and much energy in connection with the same object was also displayed in not a few of the provincial cities and towns... As far as public feeling is concerned, it is sufficient to remark that the leading newspapers in the State, with hardly an exception, are opposed to the Council... and it is part of their business to interpret the mind of the people...
>
> (n.a. 1901).

6.2A.2 The Woman Franchise Bill

The *Woman Franchise Bill* was finally passed in 1902 in NSW, the same year that women won the right to vote federally. In 1902 there were five stories about women's rights to participate as voters and in 1903, seven when women voted federally. Undescribed in the *Herald* were the formidable suffragist networks and their tireless fight against a long series of setbacks. Contrasting to the *Herald's* brevity, the suffrage lobby's literature was vast, with much to struggle against as politicians toyed with their efforts. *Women's Voice* published early in the 19th century attempted an emancipatory role only to close after two years. Louisa Lawson's *The Dawn* first appeared in May 1888, its contents compiled or written by Louisa Lawson (see Lawson 1990: 3 & Ollif 1978: 55-6). Other women's journals of the times treated women as a market for goods rather than a mass to mobilise.

> …there has hitherto been no trumpet through which the concentrated voices of womankind could publish their grievances and their opinions. Men legislate on divorce, on hours of labor, and many another question

> intimately affecting women, but neither ask nor know the wishes of those whose lives and happiness are most concerned…
>
> Here then is *The Dawn*, the Australian Women's Journal and mouthpiece – a phonograph to wind out audibly the whispers, pleadings and demands for the sisterhood…
>
> (n.a. 1888:1)

Themes from *The Dawn* focused on gaining women the vote and better conditions. There were analyses of emancipation's prerequisites. Education was a means of earning a comfortable income so that marriage was by choice rather than economic necessity. Women's health too was important with articles on the benefits of exercise and good diet. Success was another emancipatory quality and required a resourceful and focused attitude.

> The first requisite to the attainment of success in any direction is a clear cut self reliant and unshaken state of mind with out which all effort is a feverish striving forward that is quite likely in the end to prove a disappointment…
>
> A steadfast belief in the righteousness of one's aim, and undeviating purpose to attain it, is as certain in result as the law of cause and effect.
>
> (Lawson 1990: 245)

Successfully attaining emancipation also hinged on changing external conditions. There were descriptions of: the plight of Aboriginal women, white female servants paid a penny an hour plus board to work 16 hours a day seven days a week, women forced into relationships with men to survive and male unions' antipathy to women members. After initially employing a male printer, *The Dawn* found itself boycotted by the Trades and Labour Council when the monthly newspaper reached the goal of an all female staff. The Typographical Association claimed the boycott was for women's benefit because 50% of typesetters die of chest and lung diseases, being fourth highest as the most short-lived of all tradesmen (Lawson 1990: 273, 275-8, 278 & 322). *The Dawn's* investigation of print shop conditions found that printing was ideal for women

(n.a. 1889c). It was light work in healthy conditions and considering that female servants' arduous hours and poor wages were not at issue, the anti-female printer stance was hypocritical. Printers' poor health was due to their dissipated lifestyle *The Dawn* argued. Another journal employing women was closed down after union men threatened to boycott advertisers and newsagents supporting the journal. Lawson was known for her tenacity, intelligence and business acumen and closed her commercially viable publication by her own choice when she was 57 (see Lawson 1990: 2, 5 & 14 & Ollif 1978: 53, 138-9). After descriptions of her tenacity in her prime, in retirement she was described as exhausted and financially unrewarded by her long battle. The long saga of feminist meetings, manoeuvres and arguments of misogyny that she described so passionately went unrecorded in the *Herald*.

After the *Herald*'s small cluster of emancipatory stories, there was a long silence about emancipation, with stories quoting men in male dominated spheres such as politics, mining, fires, shipping, farming, fishing and defence. Women participated at low levels in all these areas, but even being spoken for as points of interest was rare... it took until 1910 for the *Herald* editorial to run a sympathetic but brief note about the possibility of women entering parliament.

6.2A.3 The First Female Parliamentarian Goes Unheralded

Despite the sympathy of the editorial, it took another 15 years for a woman to be elected to NSW Parliament. She was Millicent Preston Stanley, a conservative, elected in 1925 (Lees 1995: 184). Records of these milestones could not be found in my newspaper search of 1910 to 1926. During this time a slight increase in discourse on women's participation as citizens went unmentioned in the index; its recorders appeared to lack sensitivity to this issue. For example, in 1926 on page five, but unrecorded in the index, two stories ran about women, one on girls winning home economics scholarships at "the Technical College" and one on a Cathedral Women's Guild meeting. Such apparently mundane activities were signs of an adoption of suffragist ideas and practices: ideals of liberal feminism aimed at making women better wives and mothers through activities such as domestic science, the church and charitable works. Activities, which by today's standards appear trivial, were breaks with past notions of the appropriate spheres for women. In 1932 and

unlisted under Female Suffrage, one story recorded women becoming more radical by demanding better pay and conditions.

6.2A.4 New Voices of the Depression's Adversity

In "Female Unionists", seamstresses were in complete revolt, struggling to end "sweating" in clothing factories (n.a. 1932). A previous judgment from the Arbitration Court to end sweating had been reversed by the High Court. A search of later editions could not find if they won or lost. On the same day and page, there was a story on the opening of a mothercraft center in Newcastle and a new branch of the Australian Mothercraft Society. Once again, the influence of liberal feminist notions of the importance of domestic science had an impact. A new trend also developed with the Depression for women to speak on food issues other than cookery. Their role as mothers and wives underpinned the acceptance of their new voices. Until then, non-cookery stories on food originated from masculine spheres... with a subtext of white male control of areas such as lawmaking and production. There were stories on legislation such as the *Pure Food Act* 1906's impact in the US, meat trade ordinances, Master Butchers' annual picnics, male-run butter co-operative factories and fruit exports. Generally, food stories had several categories, bread; fruit and vegetables; meat; milk and butter, and fishing. 1937 recorded a small burst of women speaking for themselves with six stories, four in protest over the price of food. Women's protest was coupled with an announcement of a presence in business with one story on the formation of the Business Women's Club in Newcastle. This story ran in "The Women's Realm" a weekly section given over more usually to recipes, social events and fashion advice. Women's emancipatory profile continued its climb to a record height during World War II.

6.2A.5 World War II and Women's Voices Reach Their Highest Peak

In the early stages of the war in particular, stories lauded a female passage into stereotypically masculine areas, both in the military and civilian life. In 1939 there were 10 such stories. Birth control clinics and the barriers faced by women wanting to become magistrates were discussed. In 1940 there was another climb to 23 stories along this emancipatory theme. One described an instance of resistance to this shift, the opposition of feminist moves to establish birth control clinics. Women rated 80 stories in 1941 on their worthiness to

work for the war effort. Three of these stories were about women firefighters. Women's stories almost took a page of the index in this year, representing the highest point of coverage between 1881-1981. The trend of a growth in descriptions unreservedly applauding women's work continued until a few years after the war. Stories in 1941 included "Minister Replies to Housewives", "W.A.A.Fs Unaffected by High Heels" and "Room for Women In Army..." In this year, but not listed in the index under the women's category was a story on a champion racehorse called Feminist and its planned retirement to stud. This peak in the unreserved support for women's bravery can be seen in Figures One and Two. Figure One is a system of change plotting the relationship strength between the "before" variables on the X axis against the current variables on the Y axis. This before and after method of plotting will show up systemic rotation points or clustering. The spiral peak at the frequency of 80 represents the largest loops in the system in 1941. In 1942, there were 62 women's stories, with pay being one of the major topics as women won the right to 90% of a male wage. A fire brigade of women called the Women's Fire Auxiliary also took its first call.

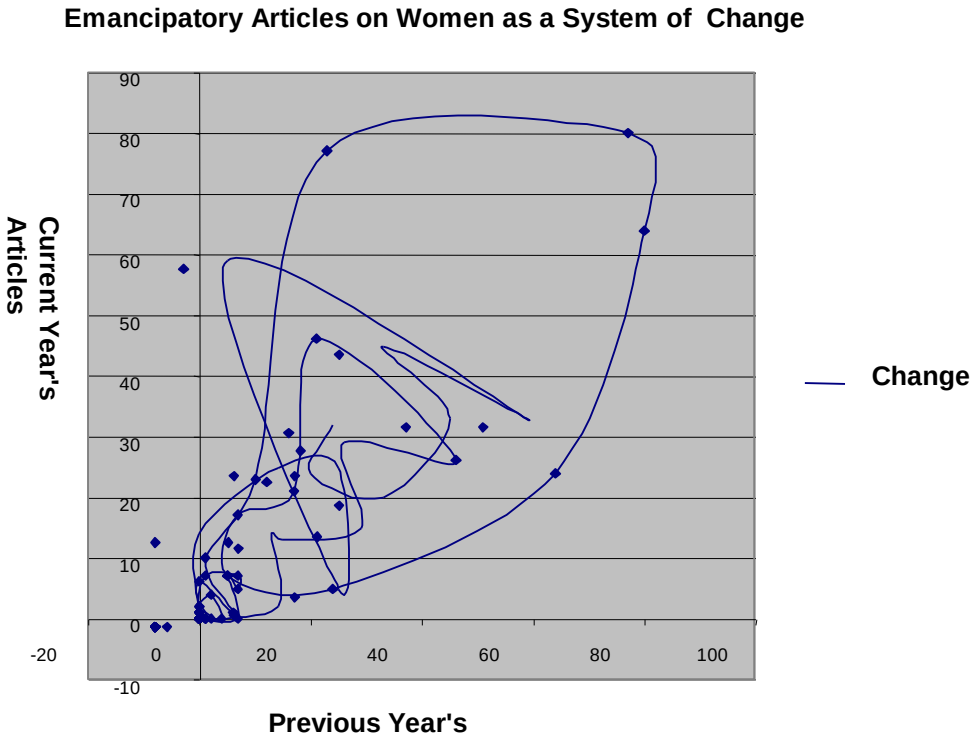


Figure One: Articles in the *Newcastle Herald & Miners' Advocate* between 1881-1981 reflecting on women's emancipation as a system of change.

6.2A.6 The Discourse Takes an Unemancipatory Turn

From taking over a column each year in the index, in 1944 emancipatory stories on women shrank to 24 and the first wartime stories against female employment appeared ("Women to Say Why Families are Small" and "Women on Factors in Fallen Birthrate"). By 1946, although there was a picture story on a women's ice hockey team, the index's section on women's stories had drifted back to a total of seven and a more Country Women's Association theme with stories of recipes, social gatherings and clothes. In 1952, a daily section made its first appearance under the heading, Women's News In Brief. This contained a range of stories from weddings, domestic advice, and fashion through to stories on remarkable women and women's organisations. Prior to this, a women's section ran weekly. There followed a gradual decline in numbers of stories under the classification of women's activities in the index until 1955, when two stories were cited. The index for this year states, "see each day's issue". From this point, stories on women stopped being recorded in the index as a category until 1972 when they were reintroduced under the heading Women's Status.

Emancipatory stories still ran during this silence in the index, as did the weekly women's section and a growing tendency for stories and cartoons on gender tensions and conflicts. Here, mostly women were lampooned for purported inadequacies ranging from incompetence in fishing, compulsive shopping, stupidity and a lack of ambition in choosing home duties as a career. Men were often depicted in antagonistic roles to women, usually as boyfriends or husbands. The most conflict ridden was Useless Eustace, with its jokes based on insults between husband and wife. Until 1972, women's news stories occasionally appeared but they had lost their emancipatory theme, although doubtless, many women in news stories broke with and challenged gender

boundaries. This required bravery but compared to the commendations of the early war years, women's bravery went relatively unheralded and usually stories of this nature were confined to the women's page.

6.2A.7 A Lower Profile… 1972-81

Emancipatory news stories about women began again in the index in 1972. In the main, these stories dealt with the women's liberation movement. The glory that was heaped on women in the early war years did not recur. Instead, as with first-wave feminist stories, at the very least, there was a sour note. There were stories such as "Who is Exploiting Whom", "Let's Communicate Instead of Liberate" and "Bra Burning 'Of No Use' ". There was scepticism about the fairness of appointing mainly women to conduct an inquiry into the status of women. The next year, two stories dealt with the status of women, one announcing plans for anti-discrimination legislation and another on the coming of the Women's Electoral Lobby. In 1974, there were four stories. Fifty-nine stories followed in 1975. In this year, runs of stories on emancipated activities such as the formation of women's clubs and women's crisis centres were layered with less sympathetic articles such as "Female Chauvinist Sow May Be Next". Thirty-three stories followed the next year, the most dramatic aspect of these being the gender tensions portrayed in stories like "Feminists Keep On Warpath" and "Feminists Accused of Degrading Morals".

The next year, 1977, also saw 45 stories on women's status. Here, the main themes were women's refuges, crises centres and various aspects of discrimination. In 1978, in a landmark case, a Newcastle woman fought to become a firefighter. Her battle led to women's acceptance in the NSW Fire Brigades. That year another remarkable relic of discrimination ended, the right of employers to sack women if they married. From 33 stories reflecting on women's emancipation that year, story numbers shrank to 20 in 1979, 24 in 1980 and rose to 32 in 1981. In 1980, new arguments against women's employment surfaced. There was the double shift of combining home duties with paid employment and the ogre of sexual harassment from male bosses. Despite their battles for change and legislation, white women remained excluded from sections of white men's spheres in this record of white male pre-eminence between 1881 and 1981. The time span was chosen as an adequate

length with which to generalise about the traditions and culture impacting on white women and bravery. This ends this small history of women's struggles against infrastructure, worldviews and practices that restrained their status and class in the Hunter region. Despite the influence of feminism, in 1989-90, 59% of Australian women received welfare payments such as pensions and Family Allowance (Castles 1993: 170-1). In a graph of income distribution, women on welfare represented a peak that was almost twice as high as men's welfare peak. On average, women earned $14,000… just under half of men's average earnings of $26,000. At the high earning upper end of the graph's tail, the ratio of women to men was 15: 46. In other words women were vastly under represented, accounting for 15% of high income earners. In 2004, Australian women's plight was relatively unchanged with unprecedented numbers on welfare compared to 1974 (see Summers 2004: 1 & 2).

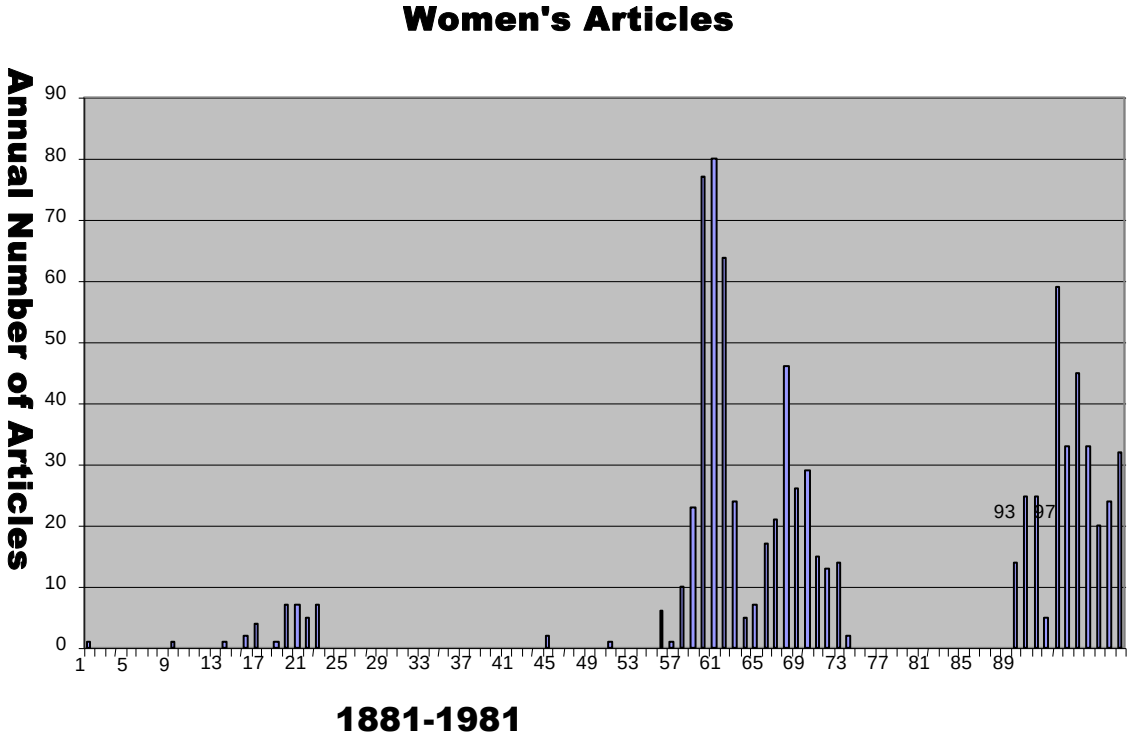


Figure Two: The three peaks in stories reflect women's emancipation. It should be noted that Figures Three & Four on Indigenous emancipation have a much higher frequency. The number of stories on white women was not less than those of Aboriginal people, but heavily invibilised as articles on domestic matters & short stories where women were portrayed in a romantic & domestic way, & so not counted. It was beyond the time frame of this research to do so as they were unlisted in the *Herald'*s index. The Herald's stronger sense of black/white social boundaries made articles with Indigenous subject matter easier to locate & quantify in Figures Three & Four in the next section.

There were also more women working part-time and more over 60 living in poverty. About 18% of women cannot support themselves financially and rely on welfare for their main income. The statistic from men is about two percent lower. However, while their socio-economic status moved towards welfare dependency, in 2003, the shrinking numbers of women in full-time work earned more on average that in the past. In 2003, employed women's earnings totalled 65 percent of employed men's (see Australian Bureau of Statistics 2004: 4). In

comparison to 1996, this was an improvement as employed women's earnings then totalled 61.89% of employed men's. This was a further improvement to 1989-90 when women's total earnings were 53.6% of men's, with a total of 53 cents to the male dollar (Castles 1993: 170-1). Another way of gauging gender earning worth is to compare full-time pay rates. Women in full-time employment earned 81.61 cents to the full-time male dollar in 2003 compared to 75.71 cents to the full-time male dollar in 1996 (see Australian Bureau of Statistics 1996: 3). Little media attention has been given Indigenous Australians and women's prospects in the *Herald* archives. Between 1881 and 1981, the discourses of women's and Indigenous Australians' struggles were weak trickles compared to those on white male bushfirefighting.

Since 1981, as *Herald* editorial continued to toy ambivalently with women's social location, giving scant attention to women's struggles for equality, Indigenous Australians did not fare nearly as well. Few articles covered their far worse lifestyle problems of chronic long-term unemployment, alcoholism, racism, poor housing and low levels of education. Indigenous life expectancies in 1994 were 59 years for men and 64 for women. This compares with the white population of 75 for males and 81 for females (Southern NSW Public Health Unit 2002:1). In terms of risk, the diminution of white women and of Indigenous Australians has also impacted on the general population. The cost of the mythology of a white male bushfirefighting icon and loss of Indigenous bushfire knowledge has had catastrophic consequences as the bushfire problem grew along with the budget for its mitigation. Over previous millennia, with no fire trucks, hoses, boots, heavy woollen jackets, helmets or overalls, Indigenous men, women and children kept the undergrowth down as a mundane chore (see Pyne 1991, Flannery 1994 & Kohen 1995). They burnt regularly, when conditions were not extreme. The linkage of catastrophic bushfires to the interruption of traditional patterns of burning is unacknowledged within mainstream disaster literature and local newspaper discourse. As well as examining the impacts of discourses of, at best, Indigenous Australians' inconsequence, the correctness of claims of a white male icon of bravery is further probed in the next section.

6.2B.1 The Aborigines 1881-1981

This section gives a small history of Indigenous Australians' diminution and this diminution's impact on the current bushfire crisis. The end of the chapter discusses evidence of millennia of successful Indigenous bushfire mitigation. Literature describing the scientific basis of bushfire science & firestick farming breaks with appearances of the inevitability of dramatic bushfire devastation as a regular part of the landscape. Indigenous diminution is linked to the loss of this vital knowledge of earlier successes in bushfire management. Early *Herald* stories problematised Indigenous Australians far more than white women, devaluing Indigenous deaths and hardship. Unmentioned in the *Herald* in this century of archives were massacres of Indigenous Australians by white men. Murder of individual Aborigines, was considered as serious as cutting down a tree and did not rate as news (see *The* Australian ABO CALL The Voice of the Aborigines 1938 Nos 1-5). In 1881, the *Herald*'s sole Indigenous story spelt Aborigines with a lower case "a" (a trend, continuing to 1964). Unlike articles on white women, black/white boundaries were strongly demarcated in Indigenous Australian stories, making articles linked to their emancipation easier to count. The Indigenous population was described like a zoological phenomenon to be studied, institutionalised, reformed and taught to work productively.

Aborigines were said to be debased, their women naked and debauched, and their children dejected. Missionary efforts to rescue them from vice were applauded but claims of their irredeemable sub humanity attacked. However, Aborigines were the country's rightful heirs and could be rescued from their plight, according to another early article. This note about their potential for rescue was fleeting. In 1894, Indigenous Australians were depicted as a lost, and doomed race of thousands.

THE ABORIGINES

> The Report of the Aborigines' Protection Board annually tells the sad story of the decadence of a race doomed to speedy extinction. The total at the end of 1893 was 7255, as against 7349 in 1892, a decrease of 94 during the year. Among the full-bloods the deaths exceeded births by 43, while

there was a net increase of 74 half-castes. The government expended on them during the year a total of £15,253 ($30,506), or at the rate of £ 2 2/- ($4.20) per head. Of the total number no less than 1614 were being supported by the board, and of these 727 were children. It is sad to think that the real natives of this colony should have such a miserable existence in the land of their fathers; and that so many of them should have succumbed to the worst phases of the civilization of the white man. Soon the race must be extinct as the dodo; and it is therefore satisfactory to find that no one grudges the small expenditure, which is annually voted for the purpose of making easy their path to the grave. It would be a good thing for these people, and for Europeans, if a district of country were set apart for the use of aborigines, where they would be under the firm but kindly supervision of Government officials, whose duty it would be to see that peace was maintained among them, and that they did not die of starvation. At present, left too much to the freedom of their own will, many of them are useless to themselves, troublesome to others, and afford shocking examples of the combination of the worst features of the white and black races.

(n.a. 1894, my underlining and bracketed insertions)

Aborigines as a problem changed as a discourse in 1900 when the number of annual stories rose comparatively sharply to eight.

6.2B.2 From Spineless Wastrels to Depraved Killers

In the same year that white women were noted as worthy of voting, the Aboriginal image moved from a problem (which would be solved by controlling them during their “extinction”) to dangerous murderers. In the heavy coverage of the Breelong murders at Gilgandra, a gang led by Billy and Jimmy Governor was said to have murdered five people. No evidence linked the gang to the murders. More unevidenced reports of murders by the gang followed near Mudgee and Merriwa.

THE BREELONG MURDERERS

> The interior of Australia is menaced by a gang of aboriginals whose principal remaining object in life seems to be the killing of as many white people as may fall into their murderous clutches. The number of the band is small... All the settlers in the district are naturally in the highest state of alarm, and are arming themselves from the attacks of a bloodthirsty band of scoundrels, whose lust for murder has apparently not been glutted by the diabolical deeds which they have already committed. The police are everywhere scouring the ground for these human tigers...
>
> (n.a. 1900b)

This depiction as mortally dangerous was short lived. After 1900, stories on Aborigines once again became rare and brutally condescending. Between 1901 and 1933, these dealt with their "plight", "protection", and paradoxically, their shocking living conditions. The earlier talk of the need to hide Indigenous Australians from public view by putting them in enclosed territory had concretised into incarceration on government reserves where they lived in extreme poverty on a meagre government allowance. In 1933, the semi-silence about Aborigines broke a fraction; there were four stories on how to care for a purported vanishing race.

6.2B.3 Breaking the Silence in the 1930s

Sparked by complaints from Aboriginal leaders about living conditions, in 1937 stories approximately doubled the 1900 murderer coverage. Stories quoted white male leaders speaking on Aborigines' behalf. Aboriginal people were said to be pitiful, but eligible to have their bitter complaints published. They were also noteworthy for their relics. An historic Aboriginal newspaper was published in 1938 without comment from the *Herald*. *The Australian* ABO CALL *THE VOICE OF THE ABORIGINES* ran for six months. This was due to problems finding a market. Few in the white population bought it. For Indigenous Australians, there were barriers of literacy and a lack of money to buy and then read the threepenny publication. Unlike *The Dawn* and the *Herald*, *ABO CALL* also lacked advertisers.

Consistent with the *Herald's* prophecies of doom, *THE ABO CALL* described united Indigenous Australians, treated so cruelly that they feared annihilation (1938a). In the *Herald* however, their doom was linked to their status as spineless wastrels; in *ABO CALL*, Aborigines described fearing extermination from the adversities forced upon them. The monthly publication aimed at gaining Indigenous full citizenship, including the right to marry non-Indigenous Australians, the end of enslavement of Indigenous women contracted out as servants for rations alone and:

> (a) To receive the same educational opportunities as white people.
>
> (b) To receive the benefits of labour legislation, including Arbitration Court Awards, on an equality with white workers.
>
> (c) To receive the full benefits of workers compensation and insurance.
>
> (d) To receive the benefits of old-age and invalid pensions, whether living in Aboriginal settlements or not.
>
> (e) To own land and property, and to be allowed to save money in personal banking accounts, and to come under the same laws regarding intestacy and transmission of property as the white population.
>
> (f) To receive wages in cash, and not by orders, issues of rations, or apprenticeship systems.
>
> (n.a. 1938b)

They had a shocking diet with almost no vitamins or minerals and little protein. Weekly rations were "8lbs (just under four kilograms) of flour, 2lbs (900 grams) of sugar, 1/4lb (110 grams) of baking powder, and 1/- worth of meat" (n.a. 1938c). At this time 1/- or ten cents bought about 450 grams of the then cheapest cuts such as ham and tongue, according to butchers' advertisements in the *Herald*. Corned beef and bacon were slightly dearer at one shilling and threepence and one shilling and a halfpenny for 450 grams. Stories in *ABO CALL's* brief run describe instances where "Protectors" withheld these boring, inadequate and demoralising rations. Non-Indigenous people illegally drove their cattle onto Aboriginal Reserves, trampling vegetable gardens that helped to stave off malnutrition and other diet related disease. "Protectors" leased Aboriginal Reserve land to non-Indigenous for grazing, depriving people further of the opportunity to supplement their meagre diet with fresh meat and milk. A

century earlier, for white convicts in New South Wales, weekly rations also lacked fruit, vegetables and milk in an era when unlike 1938, little was known about nutrition and its contribution to health. In 1836, convicts' diets cost about six times as much as Aborigines in 1894 and were generous to the point of postulating how an individual could eat so much in a week.

> …they were given twelve and a half pounds (a bit under seven kilograms) of maize, nine (4.9 kg) of wheat, seven (3.18 kg) of beef or mutton, or four and a half (2.25 kg) of salt pork, two of salt, and the same amount of soap. It follows that this kind of employee cost his master about fifty crowns (£12/2/- or $24.40) a year, but most settlers allowed them also tea, sugar, tobacco, and sometimes rum, according to what they thought of their conduct.
>
> (Salvado 1851, 1998: 234, my bracketed insertions)

On a diet of mainly flour and sugar, countless Indigenous Australians died of tuberculosis, fell sick to berri berri from lack of vitamin B or caught pneumonia. *ABO CALL* described Aborigines ill enough to gain hospitalisation as rarely returning alive due to differences in health care. Those needing other urgent medical attention were said to receive treatments that made them worse so that many died here too. The imposition of hardship impacted on mental well being.

People lived in fear of losing their children or being driven from their homes. Some were herded at night into locked, barbed wire enclosed huts of corrugated iron. Various regulations forced families to break up, often to far distant locations. As well as the grief of stolen generations, many suffered in their relocations as they found themselves bereft of family, friends and the land that they held sacred. Inland people moved at gunpoint to a reserve on Palm Island (North Queensland), were terrified of the sea. Some drowned trying to escape to the mainland. Those forced to work on reserves and missions or in homes as servants often had their government wages spent or withheld by "Protectors". Young girls who were under "protection" on missions and reserves were trained to be servants and contracts drawn up by their "Protectors" for them to work for non-Indigenous families. Men were also signed up in this way, employed by the so-called Aboriginal Protection Board of New South Wales

that was formed in 1883. While white children had education as a right since 1880, in 1938 NSW, Aboriginal children were lucky to gain a crude version of fourth grade level with unqualified teachers. The new Aboriginal voice documenting torment was short lived. Due to financial difficulties, it closed in September 1938.

In comparison, in the same year in the *Herald* the plight of Aborigines was sketchy. New *controls* were publicised as solutions to the Aboriginal problem. There were no follow up stories on the implementation, success or failure of these. Three stories about Aborigines appeared in 1939, one about their doom, another on their relics and one on the need for their control. In 1940, nine stories quoted white male leaders giving more promises of a new deal in health and justice.

6.2B.4 A Decade's Lesser Silence

From 1946 through to 1956, Indigenous Australian stories ranged annually between two to six in number. There were four main themes: how to control/treat Aborigines; their art; their equality with whites once educated and the discovery of a birth rate twice that of the white population. The discovery of their birth rate was not treated with enthusiasm, but reported briefly and factually. Also the subject of brief news stories, Albert Namitjira featured as exempt from many of the restrictions placed on his fellows. In 1957, there were 19 stories and Namatjira was granted full citizenship. Squalor rated several mentions and desert people were described as thriving on rats. In one article a medical doctor claimed that Indigenous Australians had lower intelligence than whites (n.a. 1958). Story numbers climbed in 1958 to 23. Namatjira emerged as a problem. He and an Aboriginal actor famous for his role in a black and white move called Jeda were gaoled. Ignorant of its own bias, the *Herald* claimed that racism was growing. As with women's struggle at the end of World War II, Indigenous emancipation itself was the problem. Stories of Aborigines as a problematic *other* continued with jumps in frequency to 30 in 1960 and 45 in 1961.

6.2B.5 1964, the First Capital "A", the Vote and Radical Activities

With a haphazard use of a capital "A" for Aborigines, annual story numbers hovered between 10 and 26 until 1967, when they jumped to 54, the year

Aborigines gained the vote. In this year, there were factual accounts of: the new right to vote, a further Indigenous population increase and Aboriginal aid. By 1969, Indigenous Australians began to speak for themselves. Charles Perkins became controversial for emancipatory activities resulting in criminal charges that were later withdrawn. 1971 and 1972 were noted as years of Aboriginal protests such as the tent embassy in Canberra. Story numbers began to climb, reaching 91 in 1972. In one article assuming that no obstacle lay in thei way, Indigenous Australians were told to set their own destinies. Stories steadily climbed into the 90s. 1978 was the peak year, with 175, some still using "a" and others "A". Typically, topics in the late 1970s through to 1981 described problems such as trachoma, poor health statistics, the high mortality rate, alcohol abuse and accusations that black activists were histrionic. Aboriginal crime was also highlighted.

> … the crime rate in country towns with large aboriginal (sic) populations was eight or nine times greater than in predominantly white towns, the NSW Attorney-General, Mr. Walker said...
>
> He said much of crime apparently attributable to Aborigines in country towns was linked with the conditions of Aboriginal life there, including high levels of alcoholism and poor relations with the police.
>
> 'The granting of land rights and the developments which flow from them will have a positive effect upon the many destructive conditions which currently oppress aboriginal (sic) people...' he said.
>
> (n.a. 1981)

The story followed with two paragraphs of statistics of high conviction rates in various country towns with high Aboriginal populations. Indigenous social locations are still far below that of the non-Indigenous population (see Australian Bureau of Statistics 2002: 31 & Taylor & Hunter 2004: 2-8). In 1994, 62.2% were unable to support themselves financially (this compares to a national average of about 18%). The bulk of the Indigenous population were on government pensions, allowances or the Community Development Employment Programs (these are designed to pay social security money and other funds into enterprises to develop Indigenous financial independence). In 2002, those unable to support themselves financially had fallen to 60.5%.

And so, experiments with equality for Indigenous Australians and white women continue. Central to the mechanisms creating these divisions is who defines and confers eligibility in considering bravery and who decides the correctness of competing knowledge fields. After the graphs charting discourse reflecting on Indigenous emancipation, the next section examines a knowledge gap in bushfire service literature: the epistemological importance of Indigenous bushfire management.

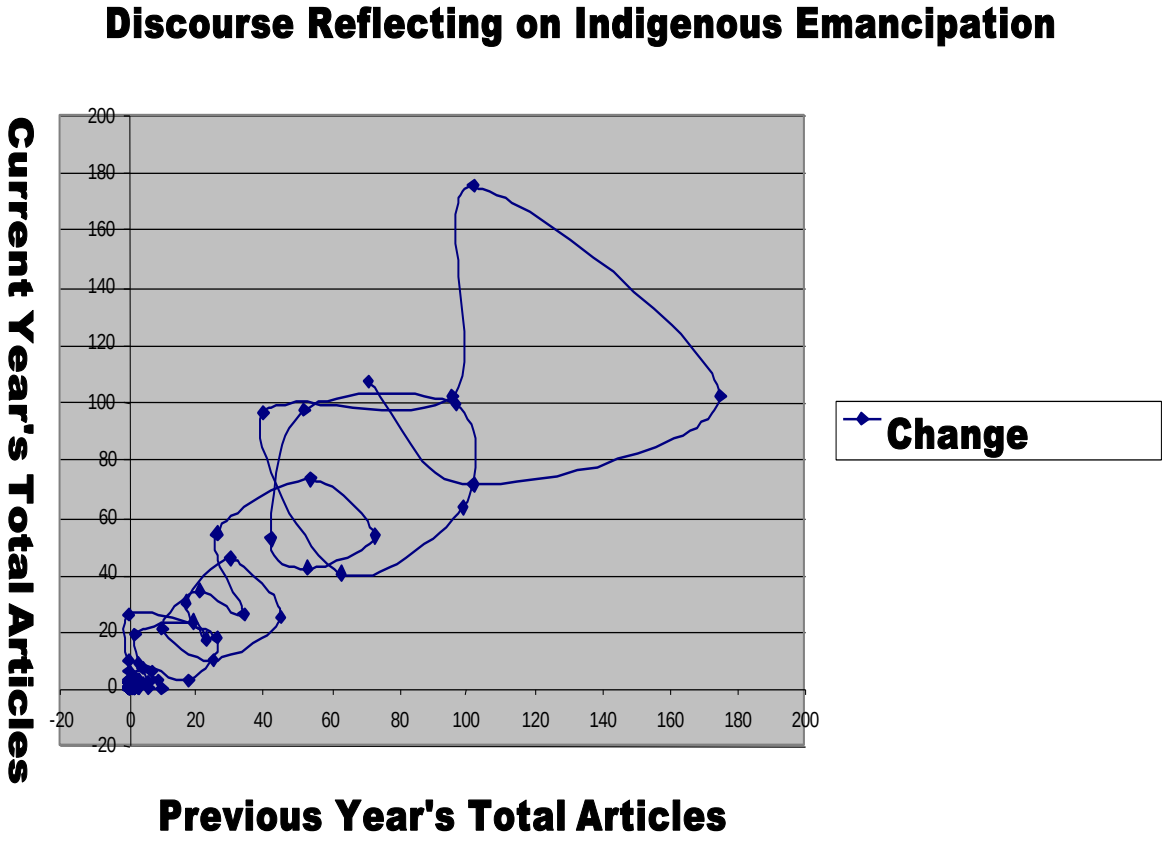
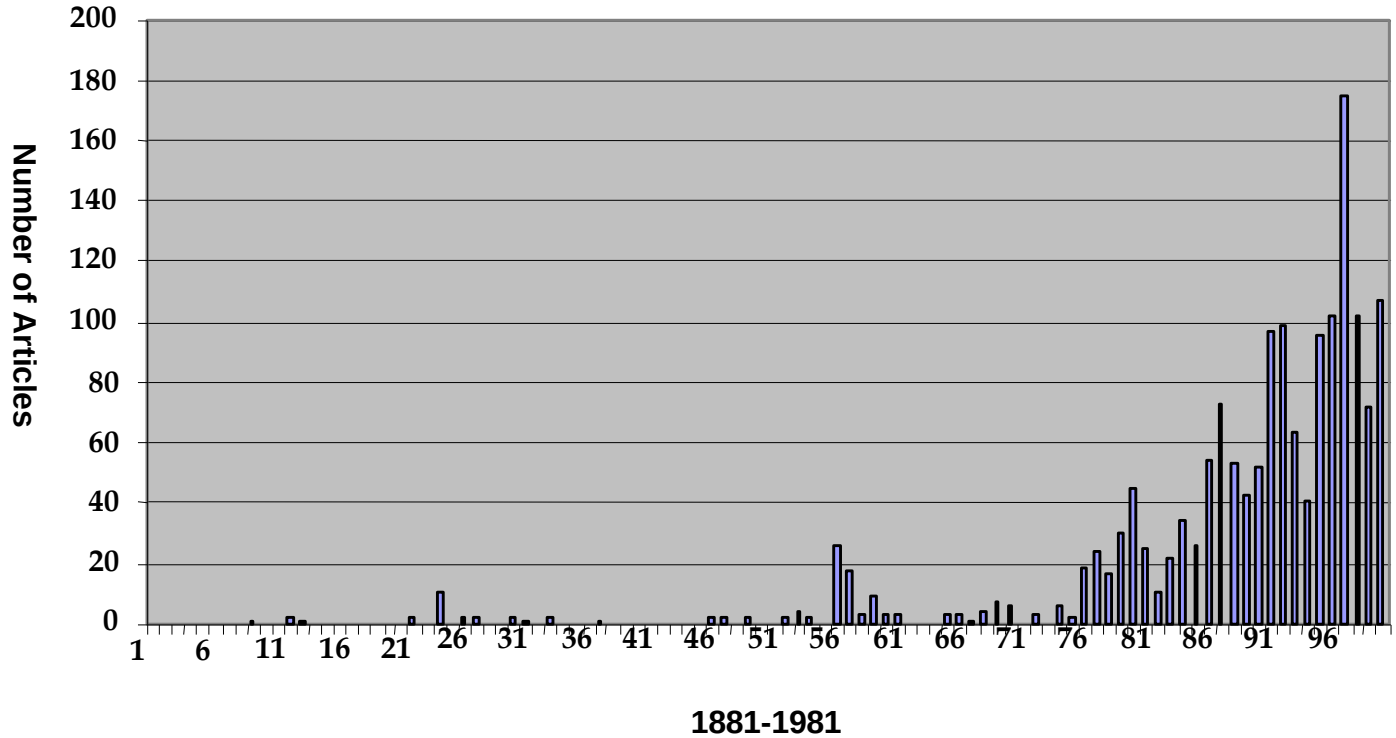


Figure Three: Indigenous emancipation as a system of change. The graph reflects changes in Indigenous emancipation in the *Newcastle Herald & Miners' Advocate* & its associated publications from 1881-1981. The annual number of articles shows a steady increase, with the peak spiralling around the 1970s.

Figure Four: the number of articles published on Indigenous Australians in the Herald and its associated publications between 1881-1981. The peak year, 1978, focused on crime, poor health, poverty and alleged activists' histrionics.

Figure Four: Articles on Indigenous Australians



6.2B.6 Changing Discourses: Breaking with the Myth of Indigenous Inconsequence

From the destructive policies of genocide, institutionalisation and diminution of Indigenous Australians followed another form of wasteland; the loss of Indigenous knowledge brought great danger with the loss of bushfire mitigation practices. Following early bushfire mitigation based on Indigenous knowledge and despite the appearance of boundary changes brought by legislation and emancipatory knowledge, white-20th-century patterns remain and intensify within the field of bushfirefighting. Withstanding their lesser numbers and anti-discrimination legislation, white male discourses of bravery persist, leaving white male governors to decide the correctness of knowledge. In the patterns that emerge through macro and micro scales of focus, there are strong similarities between the transformations of fire and the transformations of the social. Patterns drawn from old attitudes and practices are consumed, producing unique new systems. In this ever changing transformation, the most arbitrary change of all was the disappearance of Indigenous people such as the Awabakal from the bush... the symbolic and social space of volunteer firefighters is dominated by white men with no talk of traditional Indigenous land management.

Where the Awabakal once roamed, none remained to tell of the past, good or bad. There were only the eucalypts with tiny reminders of shell middens, sandstone carvings, rock paintings and sandstones grooved from years of sharpening spearheads and other tools. There were no signs of descendants of any Indigenous people in the three brigades or the hamlet of Arrawonga. Volunteer bushfirefighting literature too reflected the absence of an Indigenous voice, dismissing a large body of evidence that once, Indigenous fire stick farming mitigated wildfires (see NSW Rural Fire Service 1998: 23, Griggs 1994: 69, Pyne 1991, Flannery 1994 & Kohen 1995). The book Local Hero by Tim Griggs (1994: 69) takes pride of place in volunteer bushfire service libraries, but dismisses arguments of Indigenous fire management as a split in public opinion. The large body of evidence of Indigenous bushfire management argument is not described, disallowing readers an opportunity to reach an

informed opinion. In another bushfirefighting text, evidence of Indigenous burning contradicts an unevidenced conclusion.

> Clear evidence exists for Aboriginal burning regimes occurring in central, northern and other parts of Australia. For southeastern Australia, a more widely accepted explanation is that an open grassy understorey resulted from long, fire free periods where the shrubs died out from old age.
>
> (NSW Rural Fire Service 1998: 23)

Curiously, no evidence substantiates the argument that at the time of early settlers, the bush owed its scrub-free understories to shrubs' death from old age. Adding to the mystery of how this conclusion was reached, nine different sources in this text give evidence of Indigenous burning in Southeast Australia (see NSW Rural Fire Service 1998: 20-3). The text claims that Indigenous burning was to make bush easier to walk through, bring new shoots to attract game and to encourage bracken as its roots were an important food source (see NSW Rural Fire Service 1998: 23). Hazard reduction's promotion of biodiversity and prevention of wildfires' deadly intensity is treated as if Indigenous people could not have known this in a fire-prone and fire-adapted environment (see NSW Rural Fire Service 1998: 19-13, 27-31).

> To Aborigines fire was a tool and a part of their life. Scientific evidence and the early records of early European explorers indicate that man-made fires were used to flush out game or to encourage new growth and attract animals.
>
> (NSW Rural Fire Services, n.d., no page numbers).

Volunteer firefighting literature represents knowledge of hazard reduction's wildfire mitigation as a 20th century revelation: fuel reduced bush at Mt Macedon Victoria was found the most effective means of controlling wildfire in the 1983 Ash Wednesday fires (see NSW Rural Fire Service 1998: 23, 31-3). Hazard reduction protected State Forest in Western Australia, contrasting to devastation wrought elsewhere to humans, property and the environment by high fuel loads, high temperature fires and Cyclone Alby in 1978. These claims imply that knowledge of hazard reduction spontaneously emerged last century and ignore a large body of historic, ethnographic and scientific evidence.

6.2B.7 Indigenous Land Management Ends... Unsurvivable Fire Storms Begin

Studies of ancient through to contemporary pollens and charcoal particles reveal Aboriginal knowledge as immensely valuable in solving Australia's growing wildfire problem. Two centuries ago, through to a time scientific opinion places between about 3,000 to 98,000 BC, fires burnt the Australian bush (see Kohen 1995: 15, Flannery 1994: 218-224 & Pyne 1991). Vegetation was far thinner, being burnt regularly. Up until 3,000 BC, mystery surrounds the origins of these fires; humans or lightning may have lit them. At around 3,000 BC, these fires became more frequent and were mainly of Indigenous origins (see Kohen 1995: 40-43, 134 & 136 & Flannery 1994: 218-224). As the analysis of newspaper discourse reflecting the emancipation of Indigenous Australians shows, Indigenous patterns of land management were interrupted and unrecorded in Southeast Australian records such as the *Newcastle Herald*. Instead of hazard reduction, from early last century, recorders of mainstream disasters such as the *Herald* considered "battling" bushfire as the ultimate solution. I find resonances in contemporary firefighting practices and beliefs of this notion's masculinised and racialised past (see Plato 370-5BC, 1888: 119). In Chapter Two, I traced the development of notions of courage from a gendered, historical perspective, and its focus on war and conflict. Until the 17th century, only rare glimpses of women such as Hypatia showed them to be brave and their knowledge legitimate. As a white, masculine currency, iconic bravery is also oppositional to knowledge about Indigenous bushfire mitigation. Contradicting the correctness of this icon, Indigenous Australian fire stick farming was never an epic of bravery, but a routine event informed by encyclopaedic environmental knowledge.

6.2B.8 Mosaics of Fire Resistance and Fire Adaptation

Indigenous Australians modified the land with fire in many ways (see Hallam 1975; Flood 1985; Gell & Stuart 1989; Pyne 1991: 84, 134, Kohen 1995: 42, Flannery 1994: 223-4, Ward & Van Didden 1997). The term mosaic refers to the selective cultivation through fire stick farming of patches of fire resistant and of fire adapted flora for the production of different foods collected in migratory patterns. Awabakal descendants are absent amongst this study's informants as are records of their burning. Devoid of records of their activities,

no early Indigenous voices from the Hunter region can speak on the subject. It is unlikely that the burning that was once practised in NSW was other than a deliberate strategy to prevent incineration according to Aboriginal elder Morris Walker who remembers elders in his youth burning around August in Taree, 125km north of Newcastle.

> It had religious significance as a connection to the land as well as a way of managing it. We knew that bushfires would be destructive if it wasn't done, so it was a religious responsibility to care of the environment. It is offensive to say that we were too stupid to know that we were preventing wildfires and did it out of superstition.

Another informant talked of historic Indigenous bushfire knowledge in her region. She described oral history surrounding her ancestors' move to the southern highlands 172 years ago.

> There was a shortage of white women and many pioneers married or lived with Aboriginal women. Unlike some areas, relations with Aborigines were said to be friendly. There are lots of stories of Aborigines telling stockmen where to take their cattle in exchange for some flour. There was a drought in about 1827 at Bungendore 30km east of Canberra. Aborigines took stockmen to Berridale on the eastern foothills of the Snowy Mountains where there was good pasture that saved settlers from starvation. I grew up with a tradition adapted from shared knowledge of flicking a match into the bush when conditions were right for a cool burn. This protected us from wildfires, kept everything green, provided an understorey for grazing and gave an abundance of flora and fauna. In addition to providing pasture for large mammals like wallabies and kangaroos, we had sheep and cattle.
>
> (Noeline Franklin, personal communication 2006).

The Indigenous Australian version of this mosaic land management is sometimes depicted in dot paintings (which developed in central and western Australia) where clusters of dots are characteristically linked with meandering lines and other symbols. Amongst other things, these symbols represent areas

of different Indigenous land use at different times of the year (for the consumption of different foods, for different terrains and for different social and spiritual practices). Mosaics or patches of burnt ground occur when weather or changes in terrain extinguished fires. For example, wind changes could blow fire back onto burnt ground, rain could put out fires or fires could go out once they burnt onto hazard-reduced land. Sometimes Indigenous people beat out their fires when they escape the areas intended. Timothy Flannery (1994: 217-223), Stephen Pyne (1991: 87-88), James Kohen (1995: viii & 41) and Sylvia J Hallam (2002) have reviewed early European accounts of such burning and the landscapes it created. Pioneers cited include Charles Darwin, Sir Thomas Mitchell, Captain Arthur Phillip, Captain James Cook and Sir Joseph Banks. All described Indigenous fires ranging from campfires to large-scale burns as regular features of the scleroforest. Early paintings of the Hunter region depict the same park-like scleroforest and dense wet rainforest described in these historic accounts... a direct consequence of thinning the understorey through fire to make bush look like parkland (see Flower 1975: 32-3, 38, 45, 76, 100-1 & Bonyhady 1987: 27, 45, 93 & 97). Standard equipment was a burning torch, and smoke, a part of the landscape. Fire had many uses besides hunting and thinning undergrowth to make travel more comfortable (see Flannery 1994: 221-222 & Pyne 1991: 139).

In war, flames provided a smokescreen, and hid incendiarists' tracks as they progressed downwind from enemies, (see Flannery 1994: 221). Early accounts describe explorers driven to their beached craft after being ringed with fire. Fire's other uses include: clearing high grass and foliage (which could hide enemies) and sending smoke signals about enemy movements and cultural events. Similar to the slash and burn of New Guinea, fire enriched the soil with nutrients (see Flannery 1994: 232-3). Flannery points out that this burning was not as beneficial for the soil as the conversion of scrub and grasses into dung by large herbivores, but became a necessity with the extinction of 94% of animal species over 40 kilos (1994: 229-30 & 236). These large animals are called megafauna. There is controversy over definitions of Australian megafauna and I adopt the usage of any animal over 40 kilograms, including humans (see Pyne 1991: 82). The term includes birds and reptiles, but in

Australia refers mostly to marsupials (see Kohen 1995: 47). Prior to the extinction of vast numbers of megafaunal species, bushfires were less frequent as shown by fewer carbon particles from ancient soil samples. This was more than likely because megaherbivores' voracious appetites kept down the undergrowth (Flannery 1994: 232 & 236 & Kohen 1995: 54). Megafaunal extinctions peaked in the later stages of the last ice age (or Pleistocene), about 38,000 BC. Extinctions had another lesser peak time between 17,000 and 14,000 BC, tapering off into the Holocene, which began about 8,000 BC and continues to the present (Kohen 1995: 47-8). Evidence such as cut marks on bone shows that Aborigines ate megafauna. Flannery argues that the now extinct species inhabited well-watered woodlands and grasslands, which covered most of East and possibly North Australia until well into the Pleistocene (1994: 224-28 & 234). Apart from drought-adapted species such as the emu and red kangaroo (which still survive), less mobile megafauna depended on plentiful water supplies (see Kohen 1995: 52 & 59).

At about 13,000 BC, the region's ice melted rapidly and sea levels rose covering ancient forests (Flannery 1994: 183). The land's retention of water in lakes and waterways began to diminish as pockets of scleroforest overtook dry and wet rainforest. Flannery cites evidence that lake Eyre did not fill 11,000 years ago as it usually did when global monsoon conditions prevailed at the end of ice ages (1994: 234). The earth’s expansion was causing vast tracts of water to drain away from land, hence ocean disappeared and Gondwanaland became Australia. Accompanying changes to scleroforest, analyses of earth core samples reveal distributions of microscopic particles of carbon, suggesting that burning of vegetation began at varying times 100-38,000 years ago (Flannery 1994: 225). Burning theories form adversarial groups: one in the main exonerating Aborigines for the faunal and floral shift and the other blaming them.

6.2B.9 Indigenous Australians as the Culprits in the Floral Shifts and Megafaunal Extinctions

Flannery (1994: 225-227) and Pyne (1991: 78), attribute the bulk of fires to Indigenous Australians. Pyne assumes remains of hearths, ovens, charred bones and cremations are linked to the burning (1991: 81-2). Pyne’s argument

poses a problem because evidence of Indigenous Australians' use of fire at around 36,000 BC is not evidence of fire stick farming. Pyne and Flannery also assume that burning from natural causes is a lesser likelihood. Three core samples provide the basis to reach these presuppositions: two from North Queensland and one from the Australian Capital Territory.

In the core from Lake George near Canberra, researchers estimate that from around 120,000 to 60,000 years ago, carbon particles appeared and fire adapted scleroforest began to supplant fire sensitive species (Flannery 1994: 225 & Kohen 1995: 53). In another core taken off the North Queensland coast, the change from rainforest to predominantly sclerophyll appeared to have occurred about 150,000 years ago (personal communication James Kohen 1999). The evidence indicates that a motley or mosaic pattern of change from rainforest to scleroforest occurred for a motley number of reasons that we can only guess. Currently, some patches of coastal scleroforest are reverting back to rainforest. One example is Lynch's Crater in the Atherton Tablelands in Northeast Queensland.

Flannery estimates that the first layer of charcoal particles appeared there about 36,000 BC…at about the same time that scleroforest supplanted dry rainforest, "while in the wettest periods rainforests typical of the Atherton Tablelands today take over" (1994: 225-6). Flannery also gives the example of the contemporary reversion to rainforest around Wollongong (1994: 225-26 & 219). Around Wollongong, European settlers drove out Indigenous Australians, burning ceased and rainforest returned. In the Atherton Tablelands, Flannery gives increasing rainfall as the most likely reason for Indigenous abandonment of fire stick farming and the reversion to rainforest (1995: 226). According to Pyne (1991: 81-2) and Flannery (1994: 224-236), the floral shift is explained by Indigenous fire stick hunting begun during the ice age and culminating in a series of megafaunal extinctions. Flannery (1994: 226, 235-6 & 208-12) and Pyne (1991: 80-1) argue that the extinctions were most likely due to Aboriginal hunting, as the climate was little different to other ages where these animals survived. Previous and similar glacial epochs did not bring such a change to

scleroforest or the extinction of megafauna they claim. It was only with humans that these changes happened so widely.

6.2B.10 Arguments Exonerating Aborigines

There are flaws in the argument that climate change could not have contributed to megafaunal extinction; even dry rainforest will increase local rainfall by 60% and move rain southwards (see Flannery 1994: 49, 224 & 234). Hence, as scleroforest overtook rainforest, the climate dried. Kohen argues that Holocene Australia has been and still is significantly drier than the Pleiocine, which preceded the last ice age (1995: 50-52). From evidence of significant increases in dry patches since the Pleiocene, he argues that a change to a drier climate alone could account for megafaunal extinction. This drier climate was due to the earth's expansion and an increase of the ratio of land to water. Furthermore, scleroforest encroached upon rainforest bringing at least a 60% decrease in rainfall. This impacted on remaining rainforest's water retention. Considerable evidence supports the argument that Australia is significantly drier than previous inter glacial periods.

Eleven thousand years ago, Lake Eyre did not fill as it usually did at the end of previous ice ages when monsoon conditions prevailed. Furthermore, Lake George near Canberra has not overfilled since between 17,000-24,000 BC, before the last ice age ended... a time of aridity compared to the rainforest characteristic of the Pleiocine... but a time of peaks and troughs in glacial ice mass (see Kohen 1995: 37-9 & Flannery 1994: 182). Still in the last ice age, around 120,000-60,000 years ago, the Lake George area began the change to scleroforest and significant charcoal particles appeared in its soil. Kohen (1995: 14-5) and Flannery (1995: 226-8) speculate whether this was before or after the arrival of Indigenous Australians.

Flannery's "best guess" for arrival falls between 40-60,000 years ago (1994: 228). Pyne accepts that humans may have been in Australia by this time and sees the Lake George charcoal as an "isolated artefact" of "anthropogenic firing" (1991: 81). Kohen is ambivalent about whether fire stick farming brought the change to scleroforest (1995: 38, 35-41 & 54). He describes low charcoal levels around 5,000 BC followed by a significant increase in 3,000 BC. As ever, accompanying the rise in charcoal particles, scleroforest (mainly *Eucalyptus*)

supplanted broad-leafed wet and dry rainforest. Perhaps it was *Homo sapiens sapiens* and/or something altogether else (such as the earth's expansion and/or the movement north of the Australian continent), which brought the cycle where scleroforest accompanied by burning replaced rainforest. This reduced water systems. These changes could have been tiny hiccups compared to the vast scale of the environment that they were a part of. Immense changes crossed vast stretches of time. Rainforest patchily shifted to scleroforest and large numbers of megafauna vanished. In other areas, scleroforest reverted to rainforest. Assuming homogeneity in this change ignores the complexity of environmental systems. A time machine would be necessary to ascertain the real dynamics of change.

Soils, which historically have been covered by Australian forest, tend to be too acid for the preservation of fossils so that enough evidence to generalise is lacking (see Kohen 1995: 52). In the change from rainforest to scleroforest, the vagaries of current dating techniques have not established whether burning preceded scleroforest or scleroforest preceded burning. Nor has it been established that scleroforest and its resultant aridity and/or hunting caused megafaunal extinction. There are a few indications that Indigenous Australians wielded chopper-like kartan axes to cut up, but not hunt, megafauna (Kohen 1995: 44)... too little to make generalisations, with evidence that is patchy. There are no traces of adequate Indigenous weapon technology to hunt the megafauna until well after their extinctions (personal communication James Kohen 1999). "These megafauna tended to be huge and had enormously thick hides". The wombat-like *Diprotodon* was about the size of a Volkswagen beetle. There were a number of species of four-metre-tall kangaroos and several species of birds taller than emus. Like a ballerina *en pointe*, when it reached high speeds, the *Genyornis*, a three metre tall carnivorous bird with a vicious beak ran on hoof-like claw tips. There were giant goannas over six metres long (larger than Komodo dragons) and the marsupial lion, which looked like a leopard-sized possum with giant, shearing teeth. There were pythons about ten metres long and 30 cm in diameter... bigger than anacondas "Animals like these could only be hunted with stone-tipped and barbed spears. There is no evidence of these hunting technologies until about 5,000 years

ago, well after these megafaunal extinctions", Kohen concluded (personal communication 1999).

Kohen argues that human activities cannot be ruled out as possibilities, but there is no evidence to link Indigenous Australians to megafaunal extinction or to the change to scleroforest prior to about 3,000 BC (1995: 40-1, 58- 9 & 94). In a personal communication (2001), forester, David Ryan described witnessing Aborigines burning ground fuel in rainforest when it was very dry and mild. These fires did not affect the overstorey. Unexpectedly, when burnt by intense wildfires, rainforest on the NSW north coast regenerated as rainforest and adjacent sclerophyll forest as sclerophyll forest. Pyne (1991: 82) and Kohen (1995: 36) agree that when megaherbivores no longer cleared the undergrowth it was most likely by necessity that Indigenous Australians adopted or stepped up fire stick farming to prevent wildfires. It is this thesis's contention that they did so to escape incineration. Flannery (1994: 234-6) and Pyne (1991: 80-3) place evidence into causal models and forget the intricacies of immense series of impacts. Time has long covered the tracks of these intricacies. We can now only list some possibilities from a small number of core samples. Although in 17 previous ice ages such floral shifts and extinctions did not occur, there have been millennia of patterned but unique effects. Where patterns can be seen, patterns cannot be assumed to replicate, or nothing would change. There is an absolute problem with reconstructing events from three slices of evidence dating back over the last 17 ice ages. Vast gaps filled to reconstruct these eras as monoliths violate all sorts of qualitative and quantitative rules for explaining data (see Kaplan 1964, Bourdieu, et al 1968, 1991: 57-640, & Pagano 1981).

Central to my argument for rigor in methodology is the investigation of appearances. To this end, data is explored within different dimensions and with different methods. Informed by emergent themes, new questions clarify bias, assumptions, knowledge gaps and contradictions to break with appearances (see Bourdieu et al 1968, 1991: 52-55). Glaser and Strauss (1967: 45, 47 & 62-71) describe a point where there is a sense of crystallisation in explaining patterns drawn from the analysis of data. A saturation point is reached where the data confirms and reconfirms the explanation. Patterns of extinctions and

floral change cannot be explained from three core samples and Australia's few fossils. While *Homo sapiens sapiens* may be accountable, too little evidence exists to be conclusive. As the lack of evidence to explain floral change and megaherbivores' extinction shows, these prehistoric times left many gaps in knowledge about the relationship between humans, fire, native forests and grasslands. Using intuition to explain a fragment of information breaks many rules for validity and reliability. As this research on bravery shows, even with a large amount of pre-existing knowledge, data characteristically revealed the unexpected. My literature review, fieldwork as a volunteer firefighter and volunteer bushfirefighting literature gave me no inkling of a wildfire free past or dramatic changes in the last two centuries to bushfires.

6.2B.11 Pioneers' Accounts of the Land

Two centuries ago, accounts described forests with about seven to 13 metres between trees in coastal Australia. The cabbage tree palm often dominated the landscape. In 1848, Thomas Mitchell described vastly different terrain to the dense undergrowth now characteristic of Southeast Australia.

> Fire, grass and kangaroos, and human inhabitants, seem all dependent on each other for existence in Australia; for any one of these being wanting, the others could no longer continue. Fire is necessary to burn the grass, and form those open forests, in which we find the large forest kangaroos; the native applies that fire to the grass at certain seasons, in order that a young green crop may subsequently spring up, and so attract and enable him to kill or take the kangaroo with nets. In summer, the burning of the long grass also discloses vermin, bird's nests etc. on which the females and children, who chiefly burn the grass, feed. But for this simple process, the Australian woods had probably contained as thick a jungle as those of New Zealand or America, instead of the open forests in which the white men now find grass for their cattle, to the exclusion of the kangaroo.
>
> (Mitchell, Thomas 1848: 412)

Accounts like Mitchell’s are rare. With so much historic information lost on Indigenous practices, Flannery (1994), Pyne (1991) and Kohen's (1995) data on Indigenous land management were drawn from several dimensions.

Explanations they drew from palaeontology, palynology, history and ethnography concur with black and white oral history that once Indigenous Australians mitigated bushfires with firestick burning. On the same ground where lines of helicopters and fire trucks dump water on towering fires to little avail, once loosely organised, barefoot and scantily clad Indigenous men, women and children routinely outperformed bushfire services. Evidence for a connection between notions of bravery and disaster is paradoxical. The impacts of sweeping aside Indigenous knowledge are examined in the next chapter. In this inductive analysis, the next section assesses further assumptions, contradictions and knowledge gaps about the correctness of social boundaries. In the midst of growing struggles for equality, the bushfire icon of bravery grows with the problem of bushfire.

CHAPTER SEVEN

7.1 Birth of a White Male Icon in the *Newcastle Herald* 1881-1981

Just one small piece of a subtext of white male bravery, the bushfirefighting icon far overshadows emancipatory discourse on white women and Aborigines. A legal challenge of white-collar crime mounts. Since 1881, structural fires have always been significant news events in the Hunter, but tales of bushfire-ringed cities with bitter all-night vigils are common from the 1920s. As shown in Chapter Three's history of Arrawonga, settlement patterns underwent no significant changes in the 1920s to account for this jump in bushfire risk. Only bushfires' bureaucratisation breaks with past patterns enough to explain the new trend. Compared to the weak trickles of discourse on Indigenous and white women's emancipatory struggles, a new hyper-masculine bushfire arena gains heavy media exposure with portraits of weary firefighters battling wildfire's iridescent red, yellow and orange flames. Arbitrary boundaries make bushfire mitigation white man's work. Taxpayers and insurance companies fund the new bureaucracy. A new bureaucratic machine develops a complex web of power bases that sweep aside a large body of scientifically assessed evidence showing that the bushfire problem can be returned to past, safer levels. In the period 1881-1981, the epic that eventuated as bushfire discourse began as an intermittent dribble in the *Newcastle Herald and Miners' Advocate* and its associated publications where burning buildings were the major threat...

7.2 1881-1926 Only Structural Fires are Big News in the Lull Before the Firestorms

A comparison of structural to bush fire risk is included to assess the local risks of these two categories. The number of structural fires resulting in fatalities has not been included as the focus is on bushfires. Comprising a significant news category, there were 19 fire stories in 1881, all on burning structures. Despite the Hunter's dependence on native timbers, building railways and roads, farming and mining and the subsequent heavy interface between early settlements and the bush, these fires did not expand into bushfires. Early serious risks of structural fires attest to the population boom after the 1880s. Most structures were wooden with lighting, heating and cooking by flame. Fire risks were highest in large buildings frequented by the public. 1881 was hot and

dry with 19 stories on separate structural fires (burning buildings and other human property). National stories on large structural fires were also reported in the *Herald*. In this year, the idea of a Newcastle fire brigade surfaced and a year later, the Newcastle Fire Brigade began. One story ran on Victorian bushfires in a total of 12 fire stories in 1884. Apart from this, late 19th century archives are free of bushfires until 1898, with a dramatic story at Nelson Bay, about 70 km north of Newcastle. Three houses were saved, a burning shed extinguished and an orchard and garden lost. Unreported in the *Herald*, 1898 wildfires killed 12 people and destroyed 2,000 buildings in South Gippsland Victoria (see McCarthy, Tolhurst, Bell, diStefano & York 2004:1). Statistically, Gippsland emerges as the area of worst risk.

In the sub-tropical Hunter region, with the exception of the 1884 and the 1898 bushfires, until 1903 early fire stories in the *Herald* were either structural, or dealt with structural urban fire brigade business such as monthly meetings, new brigades, conferences, new equipment and office holders' appointments. Such details were given regular coverage, except during flood years when the Hunter River burst its banks and overshadowed structural fires in importance. Unrecorded In the *Herald*, four died in Victorian bushfires in the 1900-1 bushfire season (see Hickman & Tarrant 1986). Until 1903, annual numbers of structural fire stories ranged from six to 25. In hot years, the details of structural fires were dramatic. Headlines such as "Narrow Escape from Fire - Crystal Palace Hotel", "Disastrous Fire in Newcastle" and "Another Disastrous Fire" blazoned exciting accounts. Generally, follow-ups chronicled the endurance of hardship. These stories of bravery were between pages two and four, the front pages of early newspapers taken up with public notices, advertisements, amusements, shipping and some news. By 1899, structural fires were important news with 29 stories. Twelve of these reported fire; the rest gave news of a conference and details of structural fire brigade monthly and annual meetings. By 1901, structural fire brigades existed at Newcastle-Islington, Wickham, Tighes Hill, Hamilton, Waratah, Newcastle Central and Stockton. The number of structural fire stories dropped between 1902 and 1903 to 15 and 25 respectively. In 1903, one article described bushfires threatening the Waratah area and another discussed bushfire’s danger. Two years later, a

flurry of 14 stories described bushfires in the Nelson Bay area. There were three deaths, damaged fruit trees and a lost cottage. Unrecorded in the *Herald*, 12 died in Victoria in the same bushfire season (see Hickman & Tarrant 1986). In the *Herald*, bushfire stories discussing the problem followed in 1906 and in 1909. There were also two stories on actual bushfires at Wallsend in Newcastle. 1908 had 49 structural fire stories in 1908 and as few as 12 in 1907 and in 1919. There was one local bushfire story in 1919 at Adamstown with little damage. Between 1900 and 1906, 16 people died in Victoria in bushfires, but this went unrecorded in the *Herald* (see Hickman & Tarrant 1986). Between 1906 and 1919, the number of *Herald* bushfire stories varied from nil to 14. Also unrecorded in the *Herald*, six people died in bushfires between 1917 and 1918 in Queensland (see Hickman & Tarrant 1986). Discussion of World War I (1914-18) overtook fire in importance and there was a lull in its coverage in the *Herald*. Also unmentioned in the *Herald*, the *Forestry Act* 1916 (NSW) and a new government philosophy surrounding bushfire mitigation were poised to bring enormous change, paradoxically increasing the intensity and frequency of bushfires.

As a consequence of the legislative and policy shift, hazard reductions increasingly became government controlled. Bureaucracy and the rural population struggled over land management practices adopted from Indigenous Australians' knowledge of the compelling need to burn. Reacting to a large number of fires burning young regenerated areas, a newly formed Forestry Commission instigated a no-burn policy (personal communication 2001 David Ryan & see *Forestry Act* 1916 NSW). The *Local Government Act* 1919 (NSW) gave structure and funds to manage loosely formed groups of bushfirefighters in NSW. These brigades operated on foot, from horse drawn carts and, after World War II, from old trucks (Griggs 1994: 92-4). Leather flails (similar to whips for torture) and beaters, buckets and the furphy (a horse-drawn water cart) were standard issue. Axes, crosscut handsaws to saw logs, knapsack sprays carrying 16 litres of water to extinguish flames and garden rakes were also common (Griggs 1994: 107). Although on the increase, bushfires as problems were still lower risks and rarer than structural fires. During the war years, war superseded fire stories as a topic and disappeared from the *Herald*.

In 1919, fire stories began again, but considerably fewer than the pre-war years as war discourse still dominated. In 1926, fire became news again with 55 fire stories, 15 on bushfires. These were particularly prominent in Victoria and the Riverina where as one headline reported "Bush Fires Rage" and another "Heat Waves and Fire". Sixty died in Victoria's Gippsland and Dandenong regions and eight in the Central West of NSW. None of the bushfires made it to page one, being in one instance as close to the front as page three, but usually located between pages four to seven. After the 1926 bushfires, fire stories in general diminished with a range of three to 12 annually until 1931 when a new angle on fire began to report the total number of fire calls made to brigades in a year. One story described 221 structural and bushfire calls in the Hunter area in 1931. This new reporting technique made news out of the mundane: only six of these fires were considered significant enough for newspaper coverage. There were no more bushfire stories until 1933.

7.3 News... Fire Storms

Following the serious floods of 1930-1, in 1933, the Hunter "District (was) Ravaged by Fire" according to a page five caption. That year, nine bushfire stories ran in a total of 33 fire-related stories. Over the next three years, fire stories were rare, with few on bushfires. In 1937, fire stories surged to 57, none on bushfires. In 1938, there were eight bushfire stories out of 51 fire stories. Bushfire captions were sometimes mundane: "Cessnock: Two Grass Fires" and "Bush fires at Toronto" and sometimes dramatic: "Bush Fire Menace: Cabinet Ministers Join Fight" and "Day of Anxiety: Maitland District". Page placement ranged from pages four to 15. Bushfires worsened the next year, with 21 bushfire stories in a total of 49 fire stories. Bushfires began to approach half the frequency of structural fires. Talk of war overshadowed bushfires in importance. One bushfire story titled "Dog Incinerated: Farm Building Razed" was placed as far back as page 15. Two page seven headlines declared the hottest temperatures recorded in New South Wales, resulting in 36 heat related deaths. Bushfires killed six in NSW. Bushfires "Ravage(d the) Country". Still on page seven, a headline declared "Towns Wiped Out Victoria's Terrible Weekend Death Toll 61 Nearly a Thousand Houses Destroyed". Unreported in

the *Herald*, a Royal Commission investigated the sudden increase in death, injury and property and environmental damage that accompanied the Black Friday bushfires that burned about 75% of Victoria eventually killing 71 (see Stretton 1939).

Ships at sea had to hove to for days from smoke that could be seen from New Zealand two days after the fires. Royal Commissioner Justice Leonard Stretton recommended that hazard reduction be the highest priority. He blamed the tragedy on carelessness such as thrown cigarettes and badly planned campfires, inappropriately timed hazard reductions in 45°C January heat and power struggles between government departments resulting in bushfire mitigation's disappearance as a priority.

> ... to expose and scotch the foolish enmities which mar the management of the forests by public departments who, being our servants, have become so much our masters that in some respects they loose sight of our interests in promotion of their mutual animosities…
>
> …Thus the water supply authority *(*Melbourne and Metropolitan Board of Works, now Melbourne Water*)* has, in many instances, in the furtherance of its desire to give full supply of uncontaminated water, allowed its area to become a menace to the rest of the forest. Similarly the forester, in his desire to preserve every tree and to refrain from destroying even a negligible portion of his estate has ranked himself, in point of creating danger, with the water supply authority. Each curiously enough, is so narrow in his view that he looks at the other as a creator of danger and an enemy…
>
> …It is long established by foresters in other parts of the world that in conditions such as exist in many parts of the Board's areas - burning is the only effective safeguard…
>
> …It has already been recommended that the Forests Commission must recognise the necessity of protective burning in its areas. It is not suggested that the practice be followed in mountain ash country, except to a small extent, where necessity demands that it should be done. In all other parts, where less valuable timber, less susceptible to

> fire, occurs, this method of prevention of outbreak and spread cannot, either in the public or private interest be ignored.
> (Stretton 1939: 7, 10, 14 & 31, my bracketed insertion)

These recommendations ignored, the bushfire risk climbed. As well as the new and deadly impact of government managed bush with high fuel loads, the war year of 1939 also brought a remarkable phenomenon, *women who were said to be braver than men*. A shortage of men meant that a woman too could be commended in the fight against mounting bushfires.

7.4 World War II, the First Reports of Remarkable Female Bushfire Courage (Albeit, on Page Six) and a City Ringed with Fire

In "Woman's Heroism Saved Family From Bush Fire", a mother of seven fought a bushfire with her two brothers. A burning branch blew onto a shed igniting her mother's home. Unaided by the men, she was said to have rescued her mother, 72, her crippled nine-year-old daughter and another nine-year-old while a box of cartridges exploded in the home. 1940 was an even worse bushfire year and children too, were considered eligible to be brave in "Schoolboy Firefighters Helped to Save Homes". There were 34 bushfire stories and 78 fire stories in all that year. The headlines described long fights with fire, fires raging “again” and another new bushfire phenomenon, bushfires that ringed Newcastle. The following year (1941) was also an historic turning point for women. An appeal was launched to recruit firefighters for the Women's Fire Auxiliary. Fires and brave women made it to page two in "Women Aid Firemen: Outbreaks at Wallsend" and "Newcastle's Women Firefighters". Unrecorded in the *Herald*, 12 died in Gippsland in the1941-2 bushfire season (see Hickman & Tarrant 1986). In 1942-8, the number of bushfire stories dropped to between three and 21. In 1942, there were three stories on women firefighters in structural brigades.

7.5 Bushfires, Front Page News... and the Growth of Menacing Rings of Fire

1944 was the first year that bushfires ran on page one, beginning with "Seven Perish in Victorian fires and ending with a local story "Miles of Fire Menaced

Homes in Many Areas". In eight weeks of bushfires, two died in NSW and 49 in Victoria (see Hickman & Tarrant 1986). In the *Newcastle Herald*, the bushfire to structural fire story ratio moved closer to 1:1, with 18 bushfire stories in a total of 37 on fire. High winds, heat and dust storms also marked 1944. The number of fire calls had more than doubled from 1943's total to 924. Gales, heavy winds, heavy rains, hailstorms and one heat wave punctuated 1945. There were only 13 fire stories, with two on bushfire outbreaks. Placement ranged from pages two to three. In 1946, large areas of bushland burned around Lake Macquarie and there were nine bushfire stories in a total of 45 on fire. In 1949, the passing of the *Bush Fires Act* (NSW) went unreported in the *Herald*.

The act gave local councils power to form their own bushfirefighting brigades and appoint Fire Control Officers (Griggs 1994: 18-9 & 22-3). Levies from insurance companies, state and local government funded brigades. New legislation ratified the formation of the NSW Department of Bush Fire Services. This organisation was far different from the one that I found in 1996 with a

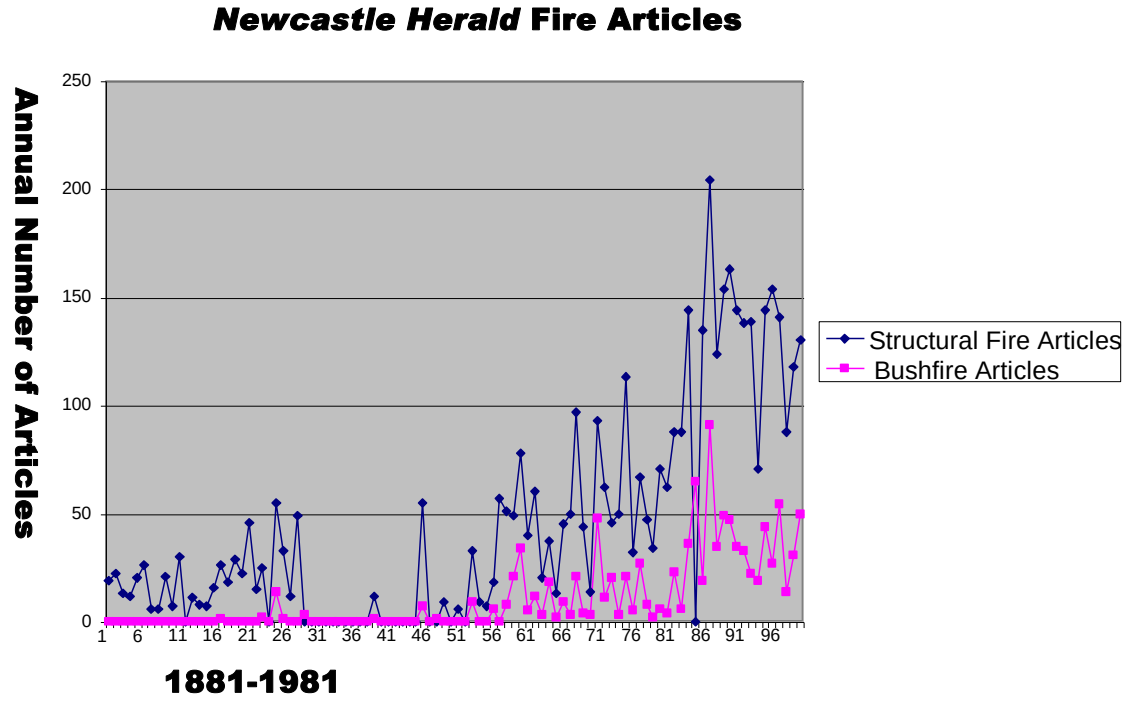


Figure Five: While structural fires had always been a problem, except for three low recordings, bushfires flat line along zero until the 1920s (points 49-59). Note, World War I between 1914-18 may have overshadowed fire, explaining the flattish line for both bushfires & structural fires during this time. The 1950s (from 69-78) show a big jump in bushfire & structural risk.

$67,715,000 annual budget and an empire of trucks, radio headquarters, computers (some with satellite connected weather monitoring systems), fax machines, aircraft and firesheds. With a 37.7% budget increase in six years, it was an even further cry from the department when its name changed to the NSW Rural Fire Service in 1997. Its total expenses of $179,218,000 in 2001/2 (see Briggs 1994: 30-3 & NSW Rural Fire Service 2002: 49-50) funded a vast bureaucratic sprawl associated with bushfire mitigation. At its 1949 inception, the Department of Bush Fire Services was a small office to administer funds. Early annual budgets were a few hundred thousand pounds. In keeping with the department's new importance, in 1949 four local bushfire stories gained page one status. Not long after the department's formation, bushfires as problems began to occur annually with fluctuating ferocity and frequency until 1951 when another big jump occurred.

7.6 Firebugs Blamed For a New High… Women's Last Appearance Until 1965

"Firebug sets bush alight," said the 1951 page one caption. "Homes saved after 2 1/2 Hours: Women Use Bags, Bushes to Fight Fire" said another page one caption three weeks after a dramatic page one fire warning. A record of 48 bushfire stories included two on firebugs. Ten died in Victoria and three in NSW in the 1951-2 bushfire season (see Hickman & Tarrant 1986). These fires followed new bureaucratic policy to step up the prevention of hazard reduction, often bringing financial ruin to the defiant. Rural people caught burning off land they leased from the Crown faced a penalty of losing their leaseholds. The 1950s was also a period of baby booming population growth with new settlement and a move away from the bush as a source of employment in occupations such as timber cutting and farming. In the Hunter, more people

depended financially on mining, power stations and BHP, moving from land holdings large enough for cows, horses, chickens, fruit trees and vegetable plots. Settlement patterns shifted towards new suburbs of 1950s weatherboard cottages. There had also been a record 1,500 fire calls in 1951… 61.6% more than the *Herald* reported in 1944. 1952 was also hot, but there were only 11 bushfire stories. A page two story ran on 15 women and children fighting a bushfire. There were no further reports of women fighting fires until 1965. This marked a disappearing point for women and children and the beginning of a surge in promises of new technology in combating bushfires.

7.7 Planes, Radios...

The first day of 1953, saw the announcement of a bushfire air patrol (page three) and two months later, the introduction of radios. There were many dramatic page one and two stories that year... "Homes safe after six hour fight"; "Kahibah Homes in Path of Blaze"; "Fires Sweep 450 Acres of Scrubland", and "Long Fight to Save Houses". Emphasising the white male image of this sphere, in 1955, a heading read, "Fire Brigades seek Men". By implication, the ranks of those eligible for bushfirefighting did not include white women or Aborigines. New technology and the absence of women and Aborigines did nothing to reduce bushfire stories' annual totals. 1957 was the first year of fire bans; hitherto warnings only were given. Unrecorded in the *Herald*, eight died in South Australia (see Hickman & Tarrant 1986). In 1962, 14 people died and 600 homes burnt down in Victorian bushfires. Bushfires continued their jagged rise, ranging between 1-27 until the mid 1960s.

7.8 1964-1981 the Graph's Columns Fill and Climb and One Woman Fights Fires

The year that Aborigines first gained a capital "A" in the *Herald* recorded a new high with 36 dramatic bushfire stories. On July 21 of the very hot 1964, front-page headlines said there was a "7-Hour Fight Against Bushfire" at Charlestown, a suburb of Lake Macquarie. The fires continued and at one stage the city of Newcastle was threatened ("Bushfire Outbreaks Ring City") in unseasonal midwinter fires. As well as the new threat of unseasonal fires, there

was a distinct change in the shape of the bushfire graph as its columns became higher and more densely packed. In 1965, bushfires trended to a new high. It had been a hot, dry year with almost double the number of bushfire stories, totalling 65. Fires in Victoria and NSW burnt for almost three months. The drama of front-page news grew, "Seven Die in Grim Victorian Fires". Fourteen died in Victoria in the 1964-5 bushfire season. In Lake Macquarie, the bushfires were so bad that the army was called in ("Soldiers Fight Way out of Fierce Bush Fire"). There was also a page one story on a Singleton housewife who fought a bushfire near her home.

Predictions of a 13-year cycle did not hold. Bushfires lasting almost three months killed 11 people in NSW and Victoria. The *Herald* discussed new equipment, radio links, plans to fight fires from aircraft and legislative changes as solutions. Withstanding these claims, bushfires continued to grow as problems unabated into 1966 where there were 19 bushfire stories with a page two announcement of another breakthrough. At 1966's end despite the breakthrough, a five-hour fight with bushfires featured on page one at the year's end. The wild fire risk was said to be building ("Fire Risk High in Murrurundi" and "Growing Bush Fire Danger").

7.9 The Next Peak

In 1967, bushfire stories relentlessly defied predictions of solutions, climbing to a new peak of 91. Wild fires' impact worsened, taking more front-page space with "4-Hour Fight Stops Bushfire", "Tasmanian Fire Terror", and "50 Dead... More Likely." In Tasmania, a total of 62 lives and 1,400 buildings were lost. There were page one appeals for food and great efforts made to replace homes, "Tasmanian Victims' Houses to be Replaced Free"... "Aid Pours in for Hobart..." 'All I have' to Homeless". There was much coverage of a bushfire fund for the victims, with a total of £54,350 raised. A sense of the nobility of the human spirit entered bushfire discourse.

1967 was also the first year that the *Herald* reported bushfire brigades competing against each other in firefighting drills. Bushfirefighting transformed into a sport. Eleven regional brigades competed and a page four heading announced "Air Flight Marks Bushfire Week" and bushfires became further

entrenched and glorified in the public arena. As part of a public awareness campaign, four spokesmen for the statutory authorities responsible for bushfires discussed statistics showing 13-year cycles ending in extreme dry hot conditions as exemplified by the summer of 1964-5 with its record number of fires. The article outlined a new system of fire restrictions in dry hot weather, adding dramatically that the heavy floods a week earlier would produce undergrowth that could become a problem, despite the 13-year cycle statistics. The article blamed the bushfire problem on a careless public and hazard reductions because firefighting techniques were improving through technological advances.

> All authorities put down escaped sparks or fires from burning off as the major cause... followed by carelessly thrown cigarettes and matches and camping and cooking fires... Though modern firefighting methods and faster warnings of fires have allowed firemen to reduce the average size of bush and grass fires, fire authorities still need better public cooperation...
>
> (Kelett, Frank 1967: 2)

Withstanding claims to technological advances, in 1968 the fire danger continued with 35 bushfire stories. Victoria was devastated... "4 Houses, Sheep Go in Bush Fire", "6 Bodies Found in Ashes" "Occupants Flee as Bush Fire Razes 20 Houses". Fourteen people died in bushfires lasting four weeks in the Blue Mountains of NSW. The new technology was not all that had been promised when a page-one headline read "Legs Burnt in Fireproof Suit Display". By September, the *Herald* announced the "Worst Bush Fire Risk for Years" in Lake Macquarie and seven stories described separate bushfires. In 1969, a fire appeal was announced which raised $18,677 to aid bushfire victims. After a story criticising the idea of aircraft water bombing bushfires, another reported the technique as successful. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) was called in for advice. Twenty three died and 240 buildings burnt down in Victoria in 1969. Once again, women were described as eligible to fight fires and gain promotions in their brigades. A brigade of women volunteer bushfirefighters fought a fire at Sunshine in Southwest Lake Macquarie.

7.10 The Drama Intensifies

The 13-year bushfire cycle theory of 1967 unrealised, by August 1970, the *Herald* announced drought conditions in the Maitland area and the Central West. Despite rains in February in most Hunter areas, dramatic bushfire stories punctuated the news. There were 47 bushfire stories and 35 in 1968 despite floods in both years. In 1972, there were 33 bushfire stories. Fortunately, there were no deaths. The heading of 1972's first bushfire story claimed "Recent Rain 'Could Lift' Fire Danger". There were no stories on actual bushfires until July when 20 midwinter bushfires burned around the lake according to a page one headline. By August, there were grass fires in Singleton. Nine warning stories followed and then a page one story "Fires Follow Scorcher". Then, "Forest Fire-Rage in Two States" (sic) as fires became a problem in Victoria and New South Wales. Defence force reserves were called in according to a page three story. Newcastle firefighters and the army fought bushfires in Eden, New South Wales. Four stories on heroism followed, with two page-one stories announcing "Dozer Hero Rescues Entrance Firefighters" and "Wangi Blaze Fought for 7 Hours". On the first day of 1973, a story announced that a bushfire was out of control, once again in Victoria. It was a hot month and a January page-four story began "Grass Fires Ring City (Newcastle)".

That year, the 13-year-cycle theory and new technologies abandoned for lack of evidence, care with matches was the solution for bushfire prevention ("The Peril of the Match"). Unmentioned in the *Herald*, the 1970s brought great change to the Department of Bush Fire Services (Griggs 1994: 23 & 27). As fire danger soared, bushfire mitigation increasingly became the role of bureaucracy, taking away locals' control and ignoring their knowledge.

> Planners recognised that the eastern third of the State posed the greatest problems of coordination. The majority of settlements, half of all NSW local councils, many National Parks, and most of the urban fire brigades were in this area, as well as most Forestry Commission lands. The potential for fires and for confusion was greatest in this third of the State. It was decided that in this eastern part of New South Wales, a Chief Coordinator of Bush Firefighting who could operate across local

government boundaries would in future coordinate firefighting operations…

In bringing about these changes, the Fire Control Officers played a crucial role, and in 1972 they formed the Fire Control Officers Association of NSW.

“Before that time contact between the local brigades and the State Government was handled by bureaucrats at head office,” recalls Commissioner Koperberg, himself a former FCO and founding member of the FCOA. “In general, the bureaucrats did not understand the bush fire situation on the ground and did not regard it as their duty under the Act to involve themselves. Bush firefighting to them, was overwhelmingly a local activity.”

(Griggs 1994: 23 & 27)

7.11 Bushfires Follow Cyclonic Rain and Floods

1974 was very wet with a cyclone threat to Newcastle in early February. Despite the heavy rains and the new bushfirefighting infrastructure, bushfires were still a problem with 19 bushfire stories. In 1975, a flood year, there were 44 bushfire stories as fires still “raged”. In 1976, another year of floods and heavy rain, there were 27 bushfire stories. Five days before floods became a problem in the Hunter, a page three story announced "Bush Fires Out of Control" on January 19. A day later, another page three story announced "Firefighters Halt Big Forest Blaze". Eight more stories described scrub and grass fires. Other stories dealt with warnings, an appeal for more bushfire workers and brigade business. In 1977, Victorian and South Australian bushfires killed eight people and destroyed 80 homes. From 1977 through to 1981, the annual number of bushfire stories hovered between 54 and 13. A challenge from white women began to take shape and 1978 marked an historic point in structural firefighting.

7.12 Anti-Discrimination History

Contradicting earlier claims in the press that women were welcome as firefighters, the *Herald* described Kathy Smith’s anti-discrimination case over becoming a volunteer firefighter in a structural brigade (as opposed to a

bushfire brigade). By the time she won the case, she was no longer in the brigade's area, so could not exercise her new right to fight fires. Her mother was Australia's first female lord mayor and had supported her in her battle. This outstanding woman was Newcastle's lady lord mayor Alderman Joy Cummings and known for her tenacity. Mayor Cummings was a firefighter during World War II in the Women's Fire Auxiliary. Stories on this groundbreaking case were the major fire news for 1978, which was a very wet year with severe floods and 14 bushfire stories.

7.13 Fire Impacts More… Children and Barbecues Join the Blame List

In 1979, there were 31 bushfire stories. Increasingly in these stories, fire brought more damage. A man lost his life in an autumn hazard reduction in April according to a page-one headline. After a large midwinter bushfire in August and numerous spring fires in September, bushfires became endemic in December, with Newcastle once again ringed by fire according to a page one headline. The danger was so great that one area was abandoned and cars left to burn. Fifty girls were rescued by helicopter a report claimed. In two other articles, 30 homes were lost and picnic and camping grounds closed. On the second day of 1980, a page one story described "Pokolbin Bush Fire Under Control". By July, page one headlines announced a dramatic midwinter fire season... "Fire Threat Grows as Suburban Homes Lost", and " 'I Could Smell My Hair and Hands Burning' ". At one stage, a firebug was blamed for the fires. Children were also suspect. By December 24, barbecues joined the list of causes (page three). 1981 began with two stories about the exploitation of bushfirefighters as cheap labour, followed by three stories about bushfires, one in a national park south of Sydney. That January, there were two local stories about bushfires closing a road and a highway. Bushfires stories ceased until the end of winter when they threatened again on August the fifth. The upward trend in bushfire risk ends at one of the graph's low points in this examination through the *Herald* archives. 1981, was a relatively uneventful fire season with five stories on three bushfire outbreaks. In comparison, 1983 continued the upward trending in media coverage with 46 deaths in Victoria, 28 in South Australia and five in NSW.

7.14 Wildfires' Passage After 1981

As wildfire risk intensified, so too did bushfire services' importance (see Griggs 1994: 30-2). With Commissioner Koperberg's political lobbying and recommendations to coroners, his budget moved to over $50 million in 1993/4 to $67,715,000 in 1995/6 through to $179,218,000 in 2001/2 (see Department of Bush Fire Services 2000: 76-7, Griggs 1994: 22-3 & 27-33 & NSW Rural Fire Service 2001/2: 43-6). In 1993/4, there was an historic national amalgamation when the army, volunteer bushfirefighters from around Australia and the National Parks and Wildlife Service joined about 70,000 volunteer bushfire brigade members from New South Wales. Media coverage of burnt pockets of bush along the 640 km NSW coastline, highlighted helicopters water bombing wildfires and numerous scenes describing valour. Firefighters drove all night or flew across state borders to serve under the commissioner. Nicknamed '94, Commissioner Koperberg claimed these as the worst bushfires in Australian history. As my archival analysis shows, they were not the freaks he claimed. After the 1920s, fires like 1993/4 became problematic even in autumn and winter. Lasting about 20 days, the 1993/4 fires were not as deadly or long lasting as the January to March bushfires in Victoria and NSW in 1965. These killed 14 over almost three months. The January 1939 fires in Victoria and NSW killed 77. Poor visibility from smoke forced ships to heave to until navigation conditions improved. Smoke could be seen in New Zealand two days after fires consumed 75% of Victoria. Tasmanian fires killed 62 in 1967, consuming most of Southeast Tasmania. NSW fires in 1968 burnt for four weeks, killing 14 and incinerating 150 buildings. Eight weeks of fires in Victoria in 1944 killed 51 and destroyed 700 buildings. These are just a few examples of an upward trend from the 1920s showing that the 1993/4 fires were far from anomalies. In a special 52-page pictorial history sold at newsagencies, Commissioner Koperberg described reaching a leadership milestone in 1993/4.

> **Amid the fires we found valour and a precious spirit of unity**
>
> ... Until 1994, every major fire or fires in Australian history had been in conditions that firefighters knew would soon turn favourable.
>
> There had always been an end in sight, an achievable containment, or an opportunity to minimise damage...

> We had been warning people all summer that this year had the potential to be the worst for 20 years. For months the brigades had all their resources ready for a major battle. But NSW's resources alone were not going to be enough...
>
> We decided it was time to make a historic decision. With a vision of enormous threat to lives and property all across NSW… I started accepting offers of help from other states… So I carefully recruited emergency services from nearby, gradually going further afield as conditions got worse. The logistics were enormous…
>
> The fires of '94 should never be forgotten as a warning of the danger that lurks in the Australian bush.
>
> (Koperberg 1994: 2)

Commissioner Koperberg's department also claimed 1-1.2 million hectares (or an area when totalled, fitting into about a 110km square) burnt (see n.a. 1994: 2). Despite more reliance on expensive aircraft for water bombing, fire killed four and incinerated 190 homes. Adapted to low intensity burns, the soil suffered untold damage in the brutally high temperatures, baking living things metres below its surface. Rare species such as numerous koalas and other flora and fauna were adapted to low intensity burns anddied in the firestorms. In the subsequent coronial inquiry, Deputy State Coroner John Hiatt said firefighting services should integrate their command structure. He proposed a new bushfire service where local government was no longer a key player (Joint Select Committee on Bushfires 2002: 37). Ultimately, he thought the urban and rural fire services should amalgamate. Intense government activity followed.

Only one of the coroner’s recommendations concretised; local government lost much of its involvement as bushfirefighting trucks, firesheds and other equipment became the responsibility of a new body headed by Commissioner Koperberg. The commissioner's department changed its name to the NSW Rural Fire Service, as did a vast number of signs and insignia. Influenced by a green mythology discouraging hazard reductions, new policy and legislation impacted on bushfire mitigation (see *Fisheries Management Act* 1994 NSW,

Threatened Species Act 1995 NSW, *Rural Fires Act* 1997 NSW & *Native Vegetation Conservation Ac*t 1997 NSW). Representatives from the NPWS, the Nature Conservation Council, the newly proclaimed NSW Rural Fire Service, the Department of Land and Water Conservation and the Environment Protection Authority controlled operations jointly, with the RFS acting as leader. Tightened bureaucratic restrictions made hazard reductions almost impossible to achieve (personal communications retired RFS Deputy Captain Kurt Lance AM, 2003; RFS Captain Peter Smith, 2003; Bushfire Brigade Captain Val Jeffery, 2003, RFS retired Captain Geoff Walker, 2003; Peter Cochran, 2004, Country Fire Authority Captain Ralph Barraclough & Wayne West, farmer, 2003). A network of outraged volunteer bushfirefighters and landholders formed in Victoria and NSW as similar restrictions hit both states. In NSW, meetings were held over 2003 and 2004 to discuss discontent. Promises from the commissioner to make firefighting safer were thwarted as lobbyists did not have the numbers to get motions passed at later meetings with the RFS staff. One of the lobby's most vocal members, retired Deputy Captain Kurt Lance described the difficulties in NSW.

> You had to lodge a form called a Review of Environmental Factors with your local council. If you wanted to burn your own land, you had to pay a consultant to look for endangered species and Aboriginal sacred sites. It cost me $1,600 to get mine done. This then went before a Bushfire Committee. You get government representatives from everywhere on these committees… the police, Department of Main Roads, EPA, NPWS, State Forests of NSW, NSW Fire Brigades, NSW Planning, Department of Land and Water Conservation and so on. The committee decided how many hazard reductions could go ahead. I gave documented evidence with Brian Williams to the NSW Parliamentary Inquiry that this system blocked HRs for as long as six years. NPWS is the main culprit. Despite the controversy over their benefit, up here HRs have slowed and then stopped wildfires. At the NSW parliamentary inquiry, Professor Rob Whelan gave contradictory evidence that HRs might be able to prevent wildfires, but not enough is known to do them, and that we want to do them every three years and this would be worse than a wildfire. In fact, we want to do HRs about

> every 7-10 years. Despite their claims of streamlining the HR process I'm still sceptical that they genuinely want to solve the bushfire problem. The guidelines for burning are hard to find on the website and are 14 pages long. This takes a lot of work for busy volunteers. In the Sydney Basin, it only takes the EPA to declare a no-burn day to waste months of planning and a lot of people's time. Once there is a wildfire, the bureaucrats ignore local knowledge and won't put out small fires quickly. They make decisions from their laptops miles away and have no idea of the terrain or conditions.
>
> (Kurt Lance personal communication 2004)

Brigades in the vocal Kurt Lance's area achieved some burning in 2004. In the Port Stephens area in 2004, 20 km north of Newcastle, constraints on hazard reductions meant that none were done during autumn and winter. "We're expecting a doozy bushfire season because of this. The fires are going to be so bad that we're just going to let them go and get of the way," said retired Captain Geoff Walker in disgust at the fate awaiting the area's many koala colonies (personal communications 2004-5). Like Kurt Lance, Geoff Walker is often in the media talking about bushfires. He has written a book on the impacts of the decline in hazard reductions in his area since the 1980s (see Walker 2002). "In the 1970s, we averaged 15 HRs a year; in the 80s, nine a year; in the 90s, 1.5 a year and in 2004, zero" he said. Their complaints over increasing bureaucratisation are consistent with the low opinion of regulations about hazard reductions that emerged in Glen and Jen's accounts in Chapter Five. Without exception, informants amongst my outraged bushfirefighting network verified Geoff and Kurt's accounts as accurate. Policy and legislation after the 1993/4 fires held provisions for hazard reductions, but were checked by a swathe of regulations citing needs to protect air quality, Aboriginal sacred sites and the biodiversity of native flora and fauna (Noeline Franklin 2003 personal communication). The argument for biodiversity dismissed millennia of biodiversity under a regime of Aboriginal fire stick farming, on the basis that burning selects for fire adapted species (see *Native Vegetation Conservation Act* 1997 NSW, Whelan 2002: 51 & 53 & NSW Rural Fire Service 1998: 27-33). Similarly dismissed were Indigenous informants' claims of millennia of ancestral land management that included low intensity burns of sacred sites

without detrimental effects (see NSW Rural Fire Service 1998: 23, &, for one argument cited by the Environment Protection Authority that there is not enough evidence to say that Aborigines burned in SE Australia, see Mooney, Radford & Hancock 2001: 209-11). Scott Mooney, Kate Radford and Gary Hancock (2001) use lead

Plate Three: Kurt Lance & Hawkesbury River firefighters say that this five-year-old hazard reduction slowed a wildfire from 3km/h to 100m/h, enabling them to extinguish it. This photograph was among those shown to a 2002 NSW parliamentary committee demonstrating the impact of hazard reductions in bushfire mitigation (photograph courtesy of Kurt Lance).

dating to analyse carbon particles taken from a lagoon near Bundeena NSW on the southern outskirts of Sydney. Estimates from their time lines of the spans of pre-settlement burning are consistent with arguments that Indigenous Australians hazard reduced. Their pre-European burning time spans suggest

that low intensity burning took place about every 4.3 years, consistent with Indigenous mitigation theory and data (see Kohen 1994 & Flood 1985).

However, they claim that their data does not support this explanation. To compound the confusion, their lead dating only confirms five out of eight of the major bushfires that the Bundeena area experienced since white settlement, suggesting that data from a core sample from lagoon sand lacks accuracy. Lagoons' sandy bottoms are very unstable due to the turbulence from water flowing from creeks and rivers interacting with ocean tides. Heavy rain will flush out sand from a lagoon into the ocean. The Bundeena research also argues that a policy of fire suppression (or putting out smallfires quickly) followed Victoria's 1939 fires, fallaciously adding, "in recent times suppression… has given way to hazard reduction burning" (see Mooney, Radford & Hancock 2001: 203). Contradicting this claim, my thesis presents a large body of evidence showing that since the 1920s, policy moved away from HRs *and* prevention. Restrictions on HRs have tightened ever since. As the next sections show, after fires in 1993/4, accumulating bureaucratic restrictions from bodies such as the EPA made hazard reductions more difficult to perform than ever before. Three years before Mooney, Radford and Hancock's (2001) paper, risk grew further after bushfires in Linton Victoria when policy moved from suppression to containment (or the curious practice of trying to prevent fire's spread without putting it out). Raising questions of a conflict of interest and further contradicting her own research, Kate Radford was the EPA spokeswoman who assured me that the EPA is not responsible for obstructing HRs because of sacred Aboriginal sites or endangered species (as Glen and Jen told me in my fieldwork). The environmental watchdog prevents burning when there is little wind or an inversion layer she told me… As my evidence attests, these are also times when HRs are safest according to bushfire texts. Bushfire service literature blames contemporary moves away from HRs to splits in public *and* bureaucratic opinion (see Griggs 1994: 69).

The planning concept behind the restrictions on HRs was to allow fires like 1993/4 to burn, their intensity little impeded. Zones such as parks, roads, playing fields and ovals were assumed to be protective barriers between bush and urban areas (personal communications Lake Macquarie Fire Control Officers, 2002 & see Devine 2002, the *Rural Fires Act* 1997 NSW & NSW Bush Fire Coordinating Committee 1998). Fortunately, the two rainy summers after "

’94” were cooler and saw lesser fires in NSW. Two volunteers died in in the mountains west of Sydney at Lithgow in 1997. These deaths could have been prevented according to one informant who told me that aircraft could not find the men to drop lifesaving water on the burning bush around them. The RFS had a grid reference system to give locations, which was not compatible with pilot’s system of using latitude and longitude. Also in 1997, a water-bombing helicopter crashed injuring its pilot in Kangaroo Valley on NSW’s south coast. In 1998, December fires in Linton Victoria lead to a policy of “ ‘If I do nothing, I do nothing wrong’ “, (House of Representatives Select Committee into the recent Australian bushfires 2003: 137).

7.15 Linton

In the Linton coronial inquiry, a bushfire report by CSIRO bushfire scientist David Packham was subject to a suppression order, meaning gaol for anyone who repeated its subject matter. Packham’s headings still remain in the report and indicate that he found poorly based decisions amongst the paid hierarchy and volunteers contributed to the five deaths (personal communication Country Fire Authority, Captain Ralph Barraclough 2004, see Johnstone 2002: 4 & N. Ralph Barraclough’s Submission to A Nation Charred 2003). The privilege of a parliamentary inquiry allowed Captain Barraclough to release some of Packham’s findings to the public. Large amounts of fibreglass made CFA fire trucks “death traps”, so highly flammable that they were inappropriate for bushfires even with water sprays acting as shields in a burnover. Packham took early retirement shortly after the Linton coronial inquiry. Although Packham found that mistakes were made all round, Coroner Johnstone intensely scrutinised the activities of a volunteer, Captain Lightfoot, but was far less critical of paid hierarchy activities (see Johnstone 2002: 229-45). Five died in fires that the inquiry found had been magnified by Captain Lightfoot and his crew attempting a backburn by drip torching in 40 km/h winds when it was 32°C.

As discussed in Chapter Four, Section 4.10, this heat and wind velocity are considered too extreme for backburning and possibly intensified the fires. Catastrophically, the drip torching was followed by a wind change. Changing directions yet again that night, wind speeds reached 65 km/h at about 9pm,

and heightened fires caught another crew. The crew was mainly paid CFA staff. Their tanker might have been out of water according to the coroner (Johnstone 2002: 589-90). With the tanker a charred wreck, there was no evidence such as intact empty water tanks to confirm this hypothesis. Nor did records of radio communications of no water substantiate the coroner's findings. Unlike Captain Penny Sutherland (Prologue), that night at Linton, the crew leader did not wait for bush to burn before taking his tanker along a country road where a firestorm was possible. During the threat of firestorm, Penny and others from Cessnock considered the practice of proceeding once bush is burnt an essential survival skill in 1993/4. In Victoria and NSW, these guidelines are standard components in texts and training (see Johnstone 2002: 589-90). Although there was no evidence to say that this occurred, allowing a truck to run out of water broke another safety rule; water tanks should not go below 25% in case a truck's sprinkler system and hose spraying/fogging are needed to weather a burnover… a fallacious assumption of safety according to Captain Barraclough who argues that burnovers pose too high a risk of setting Victorian bushfire trucks alight and should be avoided at all costs. With their large amounts of fibreglass panelling acting as heat insulation, two fire trucks caught alight with wind changes. Surrounded by wildfires, three died of carbon monoxide poisoning, most probably from the burning plastic (Johnstone 2002: 65 & 751). Another two died from smoke inhalation a small distance away. Earlier that day, Captain Lightfoot's CFA utility and tanker also incinerated with the volunteers surviving. This, along with suppression of the bushfire report and an emphasis of concentrating heavily on scrutinising volunteers and not paid personnel raises questions of apprehended bias in the coronial inquiry.

Following Linton, personal injury suits brought high payouts and a trend to make fewer decisions and act less rather than follow the coroner's recommendation that bushfirefighting training and practices be improved (see House of Representatives Select Committee into the recent Australian bushfires 2003: 137 & Johnstone 2002: 6-7). As well as making it more difficult to hazard reduce, containment became standard practice. This change flew in the face of all Indigenus Australian wisdom and a large body of scientifically assessed information (see Flannery 1994 & Kohen 1995). Containment refers

to attempting to damp down and isolate fires with measures including backburns, water bombing from aircraft and clearing fire perimeters with earthmoving equipment. Characteristically, it occurs once a state of emergency has been declared when fires become wildfires. Containment has never put out a wildfire. Once containment begins, only a weather change or a substantial patch of hazard reduction can extinguish wildfires. The policy change to containment ignores bushfire training, texts and manuals that small fires should be put out quickly before weather changes allow them to intensify and move out of control. .“I’m asking why there have never been any questions about the need for criminal investigations into the growing number of deaths and injuries. They have the knowledge to prevent them, but don’t act,” Captain Barraclough said angrily. “It’s putting me, my crew and the community at great risk.” Adding to perplexing questions of how containment can be seen as an adequate solution, under current practice, water bombing brings risks of serious injury to firefighters on the ground. The large volume of water carried in water bombing buckets gains force as it falls from heights. Aircraft are also at risk of losing control when they strike a fire’s updraught and crashing. Smoke poses visibility problems increasing risk of crashing and to health. Breathing apparatus to screen out carcinogens are considered standard equipment in NSW Fire Brigades. By contrast and raising questions of breaches of occupational health and safety legislation, bushfire crews on the ground and in the air are unprotected by breathing apparatus. Their facemasks allow in smoke.

7.16 Bushfires Intensify

Despite the mounting lessons in safety, the year 2001 saw the huge tracts of fire-prone NSW bush protected by a total area of hazard reductions fitting into a 77 km square. Most national parks and leased crown land had not had reductions for over three decades. The mild summer developed dry westerlies and the first signs of an El Niño cycle. I made many phone calls to warn Commissioner Koperberg of my findings of a compelling need to hazard reduce. All were brushed aside. “Everything seems to be going along just fine to me”, said Mr Van Bentley MP, a local ALP state member after one of my many attempts to get politicians and bureaucrats to listen (October 2001). At no time did the state politician criticise the information I had to offer. His father, told me that they both advocate HRs, but it was too hard to do anything

because people who run emergency services fight so much (personal communication Charlie Bentley, retired State Member 2001).

> On Boxing Day, a firestorm exploded from a gully below the Blue Mountains village of Warrimoo, destroying eight houses. The next day, a weary Koperberg tried to console residents by saying that topography and weather had made losses inevitable. "It's a weird country," he told one man. "You wonder what the hell we are doing here".
>
> (Lewis 2002: 8)

The 2001/2 fires did not take any human lives and cost almost $200 million in NSW. They consumed 121 homes, about 0.75 million hectares of native flora and countless fauna. Again, after a long media saga of technology and white male bravery, rain extinguished them. Amongst the hype were claims from outraged bushfirefighting captains, Aboriginal elders, scientists and researchers, including myself that the epic was not to be commended (see Devine 2002). Data from numerous fields show that maximum densities of undergrowth make fires with catastrophically high temperatures inevitable and that the bush has always burnt; be it from natural causes or human intervention.

My Aboiginal informants told me many times of how Aboriginal people in Southeast Australia once had an encyclopaedic knowledge of the environment, where and how to burn and in what conditions (& see Kohen 1995, Flannery 1994, Hallam 1975 & 2001 & Pyne 1991). Picture the now logged towering trees that once comprised eastern Australian scleroforest crowning from the massive fuel loads so common today. Trees sometimes reached 100m in height and 15m in girth. All known records in wildfire intensity would break. The long neglect of hazard reduction has made a life-threatening epic of a once mundane task for scantily clad Aboriginal men, women and children. Currently, the uniforms for bushfirefighters are expensive, and include regulation underwear of pure cotton or wool, leather gloves, heavy woollen jackets, cotton overalls, helmets with visors, face masks, goggles and leather work boots. As this debate from New South Wales State Parliament attests, contemporary

bushfire practices are highly dangerous and fraught with poorly based decisions. Inadequate knowledge of bushfire behaviour and an inaccurate map led national park staff attempting a hazard reduction on a windy winter's day to be sandwiched between wildfires, a cliff and wildfires. In his address to NSW Parliament, Mr Peter Collins MP, State Member for Willoughby in Sydney, describes the event and uses the term backburn for hazard reduction.

> Mr COLLINS (Willoughby)
>
> The fire occurred on 8 June 2000 during a backburn operation at Mount Kuring-gai. Today, I draw to the attention of the House - and I have advised the Attorney that it is my intention to do so - the case of Luke McSweeney… who survived the fire, which took four other lives. All honourable members will recall the shock they felt when four members of the National Parks and Wildlife Service who were engaged in a routine backburn during the winter months suddenly lost their lives. The same number of NPWS employees was injured on that day… Speaking of his experience on 8 June 2000, Luke McSweeney said:
>
> As the wall of flame was about to consume me, I got to my feet and did a somersault through the wall of flame, cart wheeling and rolling down the hill into the burnt country. The right side of my body was on fire, which I eventually smothered on the ground. I gave thanks that I was still alive, then quickly focused my attention on the other crew members. I walked back up the hill and found the other three survivors wandering around in a daze, their skin hanging off them like rice paper. I remember the skin on my hands had liquefied and was dripping from the tips of my fingers…
>
> … Throughout this period of rehabilitation (over the last two years) my emotional life has been totally dominated by feelings of loss, anger, bitterness and frustration, interspersed with depression, loss of words, loss of confidence and self-consciousness. The intensity and duration of these negative emotions is something that I had never experienced before the fire.
>
> He went on to say:

> It is 2 years since I was burnt, and I am yet to receive any apology or even an acknowledgment of responsibility or regret. This causes me enormous hurt. This only serves to add insult to injury.
>
> Further, he said:
>
> The attitude adopted by NPWS regarding this tragedy has served to hinder my rehabilitation. The feelings of betrayal, anger, bitterness, frustration and depression have been exacerbated by the irresponsible, self-serving, immoral stance NPWS has taken. NPWS could have assisted me in my recovery by limiting these negative emotions and feelings, thereby giving me the opportunity to focus on dealing with the trauma, grief and sense of loss that arises from such a tragedy.
>
> (Collins 2002: 4840)

7.17 A Parliamentary Inquiry Reopens Twice

As criticism mounted, a NSW Parliamentary Committee called for submissions through advertisements in rural and urban media outlets to investigate whether hazard reductions prevent wildfires. I submitted a summary of my research findings, made phone calls to the committee and politicians and had a lengthy and reassuring chat with a senior committee member who appeared to accept my every word. Despite this, the inquiry ignored my evidence along with about 130 of its 199 submissions, finding that hazard reductions do not prevent wildfires. This was based on the evidence of bureaucratic key players responsible for bushfire mitigation such as the RFS, EPA, Nature Conservation Council, Department of Land and Water Conservation and NPWS. Ignoring the scientifically assessed information in his headquarters' library and CSIRO submissions, Commissioner Koperberg told the inquiry that HRs do not prevent wildfires because he had seen a fire move over ground it burnt 12 hours previously. NSW parliamentarian, the Hon Richard Colless agreed, saying that he had seen a ploughed paddock produce flames 1.5 metres high (see Joint Select Committee on Bushfires 2002: 43). With no further probing, the inquiry took Mr Colless and the commissioner's statements as *prima facie* evidence.

Quizzing informants such as retired CSIRO bushfire scientist David Packham and my activist network of firefighting leaders, none could see how these events could occur except in firestorms. This was confirmed by a search of bushfire service and bushfire literature (see Byram 1954, Graham 1955, King 1964, Morton 1970 & Luke & MacArthur 1978, 1986: 100). In firestorms, phenomena such as fireballs ricochet and fire rivers swirl as clouds of burning gas and embers, independent of the ground-level fuel loads that unleashed them. Firestorms ferocious enough to form sheets of flame can cross ploughed paddocks or turn back through burnt bush. Several firefighting leaders gave eye-witness accounts of the speeds air-born fire can move. In one account, fire rivers travelled at about the same rate as water released from a flood gate, but floated about a metre above the ground. Such phenomena are produced by high fuel loads and are therefore preventable with hazard reductions. Although I had explained these bushfire phenomena to Mr Price, the committee found against the use of hazard reductions. Adverse publicity from those snubbed prompted the inquiry to reopen (see Tucker 2002a & Tucker 2002b). A few dissidents were allowed to speak and their evidence considered. Kurt Lance gave photographic and other evidence that he and others in the Hawkesbury River area, (about 70kms northwest of Sydney) burn in mosaic patterns.

> We showed them slides proving that burning a piece of mosaic on average every 12 years, protects against wildfires and allows flora and fauna to flourish. Whelan, who the state government often brings as a bushfire authority, contradicted himself. He said while hazard reductions may prevent wildfires, pressures to do frequent HRs will reduce biodiversity and don't preserve natural heritage. Ignoring us altogether, he said people wanted to burn every three years and this is as bad for conservation as frequent wildfires. At that time, Koperberg, Debus (NSW Emergency Services Minister) and Carr (NSW Premier) were saying they (HRs) don't work. They called them scorched earth environmental vandalism.
>
> (Kurt Lance personal communication 2004, my bracketed insertions)

Professor Whelan recommended that Bushfire Management Committees assess the usefulness of the evidence presented by the outraged Hawkesbury River landholders (Joint Select Committee on Bushfires 2002: 43 & 51-3). Fire

Plate Four: Kurt Lance and Hawkesbury River firefighters told a NSW parliamentary committee that this recent hazard reduction stopped a wildfire (photograph courtesy of Kurt Lance).

captains and bushfire scientists' evidence was only partially acknowledged. Despite their arguments that hazard reductions of between seven to 12 years can mitigate bushfires, these dissidents were seen as environmental threats who wanted to burn land every one to three years. This misunderstanding was based on Indigenous literature where burning can be around this frequency. Apart from fire's use to prevent incineration, regular Indigenous burning is a vital means of self-preservation in a traditional way of life, in particular to provide food and make the bush less scratchy to move through. The absence

of Indigenous Australians in NSW seeking a return to traditional life was ignored, as was the consequent lack of a need to burn regularly for a bush tucker diet and to move comfortably through the bush. The inquiry's second findings claimed there was confusing anecdotal evidence with nothing concrete or quantifiable to show that hazard reductions prevent wild fires. The evidence on how to hazard reduce was also said to be confusing and anecdotal. There followed media coverage of my synthesis of a large body of quantified evidence (see Tucker 2002b). The inquiry reached new conclusions. Careless householders were warned of the dangers of living close to the bush and to take precautions such as clearing roof gutters of dead leaves. People with homes romantically close to the bush, sometimes on escarpments with spectacular views became the object of criticism from bushfire agencies for the risks they took. Although these residents gained council approval to build, they joined firebugs and careless picnickers on the list of culprits. Moves were announced to research bushfires more accurately through a new federal research body called the Bushfire Cooperative Research Centre with $110 million funding over seven years.

7.18 Four Dead, 491 Homes Lost, Hundreds Traumatised as the Problem Grows

Withstanding these strategies, fuel loads continued to mount. There were more fatalities. In the October 2002 to March 2003 bushfire season, seven died in NSW, including four volunteer bushfirefighters. The RFS rolled 11 of its vehicles and hit two pedestrians. A Cessnock bushfirefighting volunteer, a policeman in the Hunter area and a Victorian Country Fire Authority volunteer were charged with arson for some of the fires (n.a. 2002, AAP 2003a & AAP 2003b). The 2002/3 bushfire season was amongst the worst on record, destroying three million hectares of land in eastern Australia and Western Australia (House of Representatives Select Committee on the Recent Australian Bushfires 2003: 331-2). The fires drew a massive media audience. In January 2003, a series of lightning strikes ignited national parkland at

McIntyre's Hut in the Brindabella Ranges, about 50 km west of Canberra. The NPWS and later the RFS, ordered firefighters to contain rather than extinguish the fires. The Brindabella fires proved to be a testing ground for the Linton policy change. The impact of act and think less may prove more expensive than the Linton payouts for personal injury.

RFS Captain Peter Smith and Bushfire Brigade Captain Val Jeffery, landholders such as Wayne West, and CSIRO bushfire scientist Phil Cheney pleaded that leaving the Brindabella fires to burn increased risk. "I rang them 23 times begging them for vehicles to attack the fires, " Wayne West told me. "The flames were so low in height we were walking through them and it was safe to attack." The fires died down during cool and dew laden mountain nights with inversion layers that presented an ideal time for attack. At night, parts of the firefront went out. Unlike Penny and Cessnock crews' midnight backburn, apart from those on watch, firefighters bedded down by 10pm. Instead of the safety of night attack, crews drip torched during daylight once the dew had dried by late morning. After a week, it became hotter, the fires began to spot and escape containment lines. Drip torching RFS crews' attempts to backburn gave the fire system new impetus.

Following the extreme bushfire conditions of the 17th, aircraft dropped incendiary devices at night to attempt a backburn that many said only made the fires more intense. Incendiary devices are similar to hand grenades, except they burst into flames rather than explode. The Bureau of Meteorology predicted extreme bushfire conditions for the 18th. At daylight, the winds intensified. The fires at McIntyre's Hut jumped from national park into private property on the Goodradigbe River. Wayne West made his final plea for help before fire devoured his home. He had moved his water pump from his house's irrigation system to his dam for aircraft to fill their water bombing buckets. With

not enough water to control the flames, he was powerless to save his home he told me, the fury mounting in his voice the more he recollected. Showing no sign of repaying him in kind for his contribution of a water pump, or empathy for the predicament he faced as his generosity left him vulnerable, the RFS told him to ring 000. Several more fires burning to the south merged with the inferno from McIntyre's Hut. Fanned by northwesterly winds of around 85 km/h over the lee of hills, pulled up by a strong convection column and fed by maximum fuel loads and intensive backburning, it became a fire tornado. The fires moved into Canberra averaging about 16km/h and at times reaching a maximum of 20km/h. Humidity was 20%. Conditions met all fire tornado criteria that decades earlier, were well documented with scientifically assessed mitigation procedures (see Byram 1954, Graham 1955, King 1964, Morton 1970 & Luke & MacArthur 1978, 1986).

> … similar to a tornado (it) is associated with strong convection activity and high combustion rates. While it appears to originate at ground level as it sucks up ash and other debris it is really formed at a higher elevation on the downward side of a convection column but remains invisible until it descends and reaches the ground.
>
> … tornadoes of this second type almost invariably form on the lee side of a hill or ridge, are frequently tens of metres in diameter and have very high ascending velocities, possibly in the order of 250 km/h, which are capable of lifting large logs and even trees and are associated with massive gaseous explosions high in the convection column which can be heard and felt at a distance of 3-4 km. They may persist for relatively long periods of thirty minutes or more and tend to wander in a general downhill path with the prevailing wind. In one recorded instance an area of 15 ha in a stationary burn was left as absolutely bare soil…
>
> The peripheral inflow winds close to the edge of some of these fire tornadoes may reach 100 km/h and pose a massive threat to fire-fighting personnel… *Knowing the preferred zone of occurrence of these fire tornadoes, it is usual practice to carefully burn such areas prior to the main fire*…

(Luke & MacArthur 1978, 1986: 100, my bracketed insertion and italics)

Generating their own weather, the merged fires produced winds over 200 km/h. The firestorm caught a woman and her daughter attempting to rescue their horses. The daughter lost nine fingers. In December 2004, she was still receiving surgery to make her joints more flexible after calcification of tissue made joint movement so difficult she could not lift her arms above her head. A NSW coronial inquiry into the fires before they moved into Canberra failed to raise serious questions.

Deputy NSW Coroner, Carl Milovanovich, dismissed eyewitness pleas that local fires of similar intensity had been easy to extinguish at night and firefighters should have been allowed to extinguish them. These were the words of disgruntled landholders he said (see Milovanovich 2003: 15 & 18-19). His inquiry lasted a few weeks with three days of evidence. Despite ignoring eyewitness accounts, no accusations of apprehended bias were made against him when he based his findings on Commissioner Koperberg's claim that the right decisions were made. In contrast in the ACT, a coronial inquiry continued into mid 2006 punctuated with apprehended bias proceedings against Coroner Maria Doogan after she recommended criminal investigations of nine ACT Government employees.

At the outset, CSIRO bushfire scientist Phil Cheney gave her large amounts of scientific evidence that NSW firefighters with hand tools could have put out most of the fires on the first night (Phil Cheney personal communication 2006 & see Doherty 2003).

> My evidence was that some fires could have been extinguished with hand tools on the first night while others required the use of heavy machinery. Importantly on the McIntyre's fire only parts of the fire could have been controlled by hand tools on the first night but if this

had been done it would have reduced the area to be burnt out and speeded up the control efforts over the next 10 days reducing the chance of escape on the 17 January.

(Phil Cheney, personal communication 2006)

Unmentioned by Cheney, CSIRO research showed that aerial water bombing followed by ground crews mopping up could have extinguished the fires (see Milne & Abbott 2005). Rapid aerial response proved 100% effective in Western Australia. Helicopters dropped water within 30 minutes of a satellite system picking up a bushfire in rural areas and using ground reporting sytems on the urban bush interface. Once aircraft water bombed and damped down fires, ground crews put out any smouldering debris so the area did not reignite. More research is needed to find the best strategy for water bombing more heavily wooded areas like the Brindabella Ranges, but according to Jenny Abbott, exploratory data suggests that rapid attack water bombing will be a useful addition to traditional attack methods (personal communication 2006). Despite evidence of the advantages of attack when there is an inversion layer, pilots were ordered to stop water bombing at nightfall when special aviation qualifications are required. Night vision goggles costing about $25,000 would have enabled pilots to see well enough to scoop up water to carry over the mountainous terrain to the fires, an emergency service pilot told me. The idea of night water bombing is still to be tested and Civil Aviation Safety Authority guidelines drafted he said. My idea of nightime water bombing brought consternation from Cliff Herbert and bushfire scientist David Packham (2006) because it would unnecessarily raise risks. However, the suggestion of water bombing at first light met their approval. According to many volunteer firefighting leaders, pilots have told them that they were near tears because they knew that they could have put out fires, including those in 2003/4. When pilots told RFS incident controllers that fires are extinguishable, they have been

stood down. Before fire hit Canberra, RFS crews' attempted containment for ten days until Bureau of Meteorology made forecasts of extreme weather. On January 18, as lightning struck through a mountain of swirling flames, officials told Canberra residents that they were safe in their homes. In surreal darkness, backlit by a sky of iridescent yellow and red, the fire tornado obliterated the outer suburb of Mt Stromlo, killing one.

Contradicting government literature and the words of paid hierarchy, buffer zones proved useless (see Devine 2002, *Rural Fires Act 1997 NSW* & NSW Bush Fire Coordinating Committee 1998). "Showing no respect for the 100 metre buffer zones of grassland designed to protect the urban fringe…, the flames marched a kilometre through housing subdivisions" (Wendt 2003). Along with the historic Mount Stromlo astronomical observatory, its records and telescopes, fire destroyed 491 homes. Many buildings hit by falling embers did not simply catch alight, but exploded. Three more died. With temperatures of 1,100°C, there were accounts of fireballs, fire rivers, massive sheets of flame and glowing embers falling like snow, as fire whirlwinds and the flaming tornado hurled roofs. Unprompted by emergency managers, two NSW Ambulance paramedics and three ACT bomb squad policemen realised that several unevacuated suburbs lay in the tornado's path.

They agreed they stood a chance of survival if they could evacuate residents quickly; something they felt morally bound to do. They described rescuing 100s on the rim of the tornado's eye. One paramedic and a bomb squad sergeant did most of the house-to-house rescues describing how they threw themselves to the ground to allow fire rivers to flow over them. They helped residents to two police trucks and an ambulance driven by two policemen and a paramedic. At first, about every second or third home was alight, three of them told me. The terrifying backdrop of flames grew closer and the firestorm that encased the fire

tornado started to engulf whole rows of houses. They had to keep moving because a fire canopy blowing about 12 metres overhead would cook them if they stood still. Several times they thought that they had the area cleared, only to stumble on more people still in their homes horrified that radio reports of their safety were wrong. The agony of Canberra's four dead can only be guessed. Those traumatised and severely burnt may have some idea.

Specialist paramedic, Cliff Herbert, said he took about 16 months to come to terms psychologically with his part in the rescues. Disasters are not uncommon to him, as he served in many large international hotspots including the carnage in Rwanda. He is still angry over emergency management's indifference to extinguishing the fires earlier and their failure to warn householders. Only one of the City of Canberra's tankers was declared operable for evacuations because it was claimed most vehicles' water pumps would not work in the heavy smoke. Eighteen RFS fire trucks remained parked at Queanbeyan on the ACT border because Commissioner Koperberg claimed that the ACT Government did not take up his offer of help. The ACT Government told Coroner Doogan that it did accept the offer of help, an outraged survivor told me as he poured over the coronial Hansard. If available fire trucks protected rescuers with jets of water and helped with evacuation, the risk would have been far less, Cliff said indignantly. Added to his anger was the knowledge that that morning, several RFS fire trucks fled after lighting backburns that made the fires worse. "It began like a busman's picnic. There was a big state of the art camp worth $250,000. The food was terrific. Brigades from all over NSW were there". Confirming Cliff's description of a holiday atmosphere at the fires' onset, Andrew Thomas, a former RFS incident controller and retired RFS Deputy Captain Kurt Lance said several captains described concern over briefings when they arrived from across the state (personal communications 2003). "Captains told me that they were sent to Canberra and they were NOT BEING

USED!" Kurt Lance told me indignantly. "They were just standing by, so decided this is ridiculous and went home to protect their own!" Captains were told that they would only have to do a bit of work, as it was all show for the media, former incident controller Andrew Thomas told me. Hardest to bear for Cliff Herbert was his supervisor telling him that their life threatening rescues did not happen. Cliff's partner has still not recovered, Cliff said, and dreads going to work in case he is victimised for showing up ineptitude at the highest levels. Like Greer's ace Spitfire pilots, his narration of extraordinary bravery also had a downside. It took two years of battling his demons before he recovered his equilibrium he told me.

> My partner and I arrived at the fires on the 15th. I thought that blind Freddy could see the danger. A philosophy exists within the NSW Fire Brigades that fires should be dealt with immediately and not left to stagger to the uncontrollable. It's obvious that there are two philosophies. NSW Fire Brigades deals quickly with a fire and the RFS allows them to burn. I couldn't understand why the RFS pussied around and didn't put them out. They were lighting backburns with drip torches and dropping incendiary devices from helicopters. The fires were spotting, so were past backburning and got bigger. To my amazement and horror, at one stage they even talked about bringing in flamethrowers. I was there as a paramedic and not a firefighter, so couldn't say anything. On the 17th there was a panic… the men were saying that political heavies were upset about the (15km long belt of government owned) pine forest (flanking Canberra's west). Activity cranked up and there were rows of helicopters dumping water. It was too late. At first light the next day, the smoke plume was around 1,800 metres high, around 3,800 at 8am and 10,000 metres high in Canberra at about 3pm.

After watching a 100-metre wide fireball destroy our camp at Mt Stromlo (on Canberra's outskirts), we saw a bomb squad copper on emergency point duty on Canberra's western outskirts. I asked Sergeant Phil Spence what was down below and he said the suburbs of Chapman and Duffy and yes, there were people there. With Phil and two other bomb squad policemen, we decided that we had to get them out. At first, about every second house was on fire with burst and burning gas connections making big Vs up their sides. It was so dark that we used torches. The wind was knocking us over. When I separated from my paramedic partner, we felt that it might be the last time we saw each other and said goodbye. Phil and I found people frozen with terror in their hallways. I carried one out who was wheelchair bound only to find a boy was upset and didn't want to leave because of his Samoyed dog, so I got it out for him… Some had to be carried, others dragged or just told how to get to safety. Backlit by a sky of flames, people with garden hoses were trying to put out fences and sheds. Sometimes we had to argue to get them to go. People were screaming and crying… As the fireball came nearer, rows of houses and gardens caught alight and telegraph poles exploded and snapped in half. The wind tossed them like matchsticks. We had to keep moving or get cooked by a canopy of fire burning over our heads, so. By the time we cleared everyone we could find, sheets of fire gusted around us and a mountainous wall of fire was about to engulf the area. I feel terrible guilt now thinking that I might have missed someone who was alive. Since then, when someone dies at work, it gets to me. My partner and I cried with relief

> when we met up at the end of it. Our masks had been torn from our faces… We had a day in hospital from acute respiratory distress syndrome from smoke inhalation. This is like smoking thousands of cigarettes in a few hours. We were invited to a function in Canberra where Jon Stanhope was going to congratulate us. This was called off… We were told the Chief Minister was too busy. We still went to the function and he brushed past us and wouldn't talk to us. We were recommended to get bravery awards, but this was ignored by ambulance head office and then, it was all supposed not to have happened.

The bomb squad policemen received Australian Federal Police commendations, but initially the paramedics got no commendations, although by August 2004, NSW Ambulances notified them that their rescue had been recognised as occurring. By February 2005, Jon Stanhope wrote to congratulate the two men for their bravery and after I contacted the Governor-General he advised the paramedics that they would get medals of a lesser order to those received by the bomb squad police. The two federal police who were most decorated left the area 20 minutes before the fireball forced Cliff, his partner and a highway patrolman to stop the rescues. The rescue was Cliff's idea and could never have occurred without his knowledge of fire behaviour. He coordinated the group's actions, telling them when to leave and how to survive phenomena such as smoke envelopes, canopies of flame and fire rivers. With so many homes reduced to rubble in four suburbs, the chance rescue suggests casualties would have been far higher.

Acting on orders, one City of Canberra fire truck and 4WD evacuated a handful of people and gave a TV interview. A Royal Australian Air Force fire truck put out 30 burning homes in Duffy and faced a wall of flames to rescue an elderly

man from his roof. Canberra's 28 Squadron went on to mop up and extinguish isolated hot spots until the next morning. Unpublicised, other NSW paramedics cared for some 4,000 people who were evacuated or turned away from hospitals. Two paramedics set up a casualty clearing station treating fractures, burns and other injuries on the grounds and oval of a local college. A federal policeman recalled the event.

> The newspaper reports of evacuating 2,500 were gross underestimates. Our police radio had advised emergency workers to send people to Phillip College. They (the ACT police) got blankets from the Red Cross and two NSW paramedics camped people on them on the grounds. They set broken arms, took embers out of eyes and treated burns from mid afternoon until the early hours of the morning.

Unexpectedly, the evacuees had to move out of the way of sprinklers that went on at about dawn. As late as September 2003, people still sought counselling (Doherty 2003b). Lifeline Canberra said phone calls had grown by 75%. Government and private agencies reported that 418 people received counselling, some still suffering hallucinations about the roar of the flames eight months later. Relationships Australia said fire issues accounted for a two per cent higher workload. With a deluge of such accounts of psychological devastation and loss, the damage bill in the ACT may be over one billion dollars (Phil Cheney personal communication 2003). In areas adjoining the territory, there is also a long list of loss and a similar bill for rural dwellers and the environment. Canberra and Melbourne experienced water shortages as fire debris fouled water catchments and regenerating bush used about 30% more water than in its established state. It was the first time Canberra experienced water rationing since 1996 and brought the need for a new dam.

Faced with a large body of evidence of emergency managers' inadequacy, conflicting reports surfaced. It was claimed regular hazard reductions caused more damage than wildfires. There was also controversy over grazing's efficacy in lowering fuel loads to mitigate wildfires (see House of Representatives Select Committee on the Recent Australian Bushfires 2003: 331-2, Whelan 2003, Victorian National Parks Association 2003 & personal communications Ralph Barraclough 2003, Kurt Lance 2003 & Peter Cochran 2004). No longer arguing that HRs do not prevent wildfires and neglecting to mention the role of bureaucratic red tape in obstructing HRs, Commissioner Koperberg claimed that it was impossible to hazard reduce NSW. He neglected to mention that once Indigenous Australians and then early settlers with the most basic tools performed a task that he claimed was impossible for a far larger population equipped with a technological arsenal in a lesser area of bush. Another omission was the success State Forests of NSW achieve with bushfire mitigation. This organisation hazard reduces in autumn by dropping incendiary devices from aircraft to achieve HR mosaics (State Forests of NSW spokesperson 2005). During data collection, no evidence emerged of NSW State Forests' land posing a high risk. As well as Commissioner Koperberg's claims about the impossibility of achieving adequate hazard reduction, there were also conflicting accounts of damage to bushland. National parks spokespeople said parkland had regenerated successfully and that damage was minimal. Fire consumed about two thirds of Kosciuszko National Park and I was invited to inspect a sample of fire-damaged forest by joining a horse trek.

One year after the fires, we rode through dead trees for about a day and a half. Like phantoms, grey and white alpine ash had no suckers coming up to regenerate. The trees were like giant tombstones marked by mourners' bouquets; at their foot, a carpet of yellow and white paper daisies grew out of crusted charcoal. Trees' bleached skeletons went for as far as the eye could

see across the mountain landscape. There were no signs of animals other than birds. The air was dank, smelling oilily of charcoal. “These trees are breaking down to make a far worse fire hazard. They should be cleared away. They could have been used for timber, but it’s too late now. They’re totally wasted and dangerous,” trek leader, Peter Cochran said talking of the well-known fact that fallen timber presents a worse fire risk than leaf and bark litter (personal communication 2004). On the afternoon of the second day, the air became balmy as we rode onto land scented by live eucalyptus. There were live trees, native grasses, kangaroos and wallabies. This was brumby territory and protected from fire by their grazing, Peter Cochran said. We sighted brumbies several times over the next day and a half on land that was unburnt except for a few firebreaks that had proved unnecessary. To add to the tally of destruction, other reports of alpine ash wastelands came from bushfire scientists, Indigenous Australians, landholders and bushfirefighters describing national parks in the ACT, Victoria and NSW after the 2002/3 fires. It is thought that alpine ash need crown burns to regenerate and that ash forests flourished under Indigenous land management (see CSIRO 2003: 29). According to one expert, a professor of Environmental Science, in the past a combination of lightning strikes and Indigenous burning would regenerate a whole system of ash trees that would be of the same age. Alpine ash does not seed until about ten to 12 years old and after this, about once every five to seven years. Like mountain ash and karri, seed in the canopy needs to be released by fire or trees will not regenerate. They can withstand low intensity burns where the fire does not reach their canopies when they are not ready to seed. About 70,000 hectares of alpine ash are dead according to one of the Cochran’s distant neighbours, Noeline Franklin, retired CSIRO scientist whose family has a 150-year history in the Brindabellas. Her figure brought agreement from others, and as yet no scientific examination has measured the destruction, but most reported that lyrebirds are much rarer after the 2002/3 fires. In light of the

information available to bushfire mitigation services and national park managers, questions of white-collar crime grew.

7.19 Revolt

Networks of angry RFS volunteers met in rural areas throughout 2003. They asked for the inclusion of local knowledge in paid hierarchy decisions, and, for the implementation of scientifically assessed information, especially recommendations for more hazard reduction and putting out small fires quickly (personal communication Kurt Lance 2003-4). The Bush Users' Group or BUGS began to lobby over a lack of informed decision making and tightening bureaucratic control in national parks. We formed a cohesive network lobbying the media to inform the public of our concerns. As an ex-journalist, I compiled a media email list and wrote press releases and forwarded others' information to gain coverage. Our demands and criticisms appeared as front-page newspaper editorial and as lead stories on radio and TV in Victoria, NSW and the ACT. Contentious issues included neglecting hazard reductions; leaving bushfires to smoulder overnight when high fuel loads and weather forecasts suggested that they should be extinguished; closing large areas of parks to the public; leaving feral brumbies to face days of agony before dying from rifle fire in culls from helicopters, and, a ban on horse riders in national parks. In Victoria, Captain Ralph Barraclough threatened to barricade the eastern entrance of the Alpine National Park with a fire truck if the Country Fire Authority (Victoria's equivalent of the RFS) and National Parks Victoria did not resolve safety issues.

He said his brigade and the Licola community were concerned over the large amounts of fibreglass panelling in fire trucks and the park's inadequate hazard reductions and fire trails. After futile years of sending letters to coroners, politicians and the CFA, the barricade ran for a day in 2004 (National Nine News 2004, ABC News Online 2004 & personal communication Ralph

Barraclough 2004). “We heard that politicians were meeting in the national park to talk about cattle grazing. We blockaded the southern entrance so the pollies had to take an amazingly roundabout trip to get out of the place.” He sent me a video of a meeting he had with CFA staff. In it, officials denied all his claims until he produced documented evidence such as the Linton Coronial Inquiry’s finding that carbon monoxide poisoning, most probably from burning fibreglass, caused three of five deaths. Captain Barraclough’s willingness to hold a burning sheet of toilet paper to the crew’s cabin brought threats of disciplinary action.

Following an edit after the end of this discussion, his video demonstrated his truck’s vulnerability to fire. Flammable tyres, rubber water pump hose and fuel leads sat unprotected by water sprays or shields under the truck’s tray. “Behind the driver’s cabin, the truck’s side and back panels are mostly fibreglass,” he said, thumping them to produce the noise associated with plastic. He lit a sheet of toilet paper. Consuming about one third of the sheet, he set the crew’s cabin alight as quickly as if using a fire starter, and then doused it with a bucket of water.

> Considering the immense dangers and numbers of deaths and injuries, it’s criminal to ignore scientifically assessed information. It’s not just isolated incidents, but a constant battle to protect our lives from their stubborn refusal to listen to anyone.
> (Captain Ralph Barraclough, personal communication 2004)

Questions like his about preventable dangers and a need for criminal investigations grew (personal communications include Noeline Franklin 2003, Kurt Lance 2003, RFS Captain Peter Smith 2003, Andrew Thomas, Wayne West 2003, Peter Cochran 2004 & see Cunningham 2003: 2).

From the field of aviation, came claims that bushfire services staff lack legally required qualifications to work with aircraft. Several aviation experts told me Civil Aviation Safety Authority (CASA) certification is necessary, from refuelling to operating aviation radios through to coordinating operations and devising tactics. *The Civil Aviation Act* (1988) has many clauses where failure to comply

brings lengthy imprisonment. In light of this legislation and reports of bushfire services' lack of compliance, questions arise about legality of RFS involvement in aerial operations and a need for criminal investigation. Legally operated aircraft using scientifically verified systems and information could bring untapped benefits with rapid response water bombing and hazard reduction by dropping incendiary devices as utilised in foreign countries with measured success.

Despite scientifically assessed information, authorities ignored a litany of such safety concerns including a lack of practical training for self preservation; the neglect of local bushfire knowledge; a preference for containment rather than suppression; attempting to put out NSW's Brindabella fires too late, and, failing to warn and evacuate Canberra residents. By ignoring concerns like these, thought may be given to whether this shows reckless indifference to preventing foreseeable injury, death and environmental and property damage (see Sections 5,18, 27-30, 33-35 & 203C & D *NSW Crimes Act 1900* & Howie & Johnson 2002: 630-1). Coroners give recommendations and look for the possibility or likelihood of a criminal act (see Sections 4D, 4F, 15, 15A, 15B, 19 & 22A, *NSW Coroners Act 1980*). It is then up to the courts to decide if a charge should be made (see Sections 140-2, *NSW Evidence Act 1995*). In criminal and civil criminal cases, the level of satisfaction that the trier of fact requires increases with the seriousness of the matter. The trier of fact should examine if there is a duty of care, if there was a breach of statutory duty and if the event was foreseeable. For a guilty verdict to be found in criminal matters, the evidence needs to be beyond reasonable doubt. If there is any other possibility that is consistent with the evidence, guilt cannot be established. That possibility does not have to be reasonable, but plausible. In civil matters over negligence, the proof of reckless indifference should be decided on the balance of probability. This does not mean a mathematical balance of probability. The trier of fact should be reasonably satisfied that it was more likely than not.

Under this or similar legislation for other states and territories, bushfirefighting and other associated agencies are obliged to rigorously deal with risk. Bushfire services should examine whether hazard reductions and rapid response could have prevented the epidemic of calamity in Southeast Australia. Have attempts

been made to research any reports that hazard reductions do not mitigate wildfires, or that instead of extinguishing them, fires should be contained? As yet these conjectures have been acted on as if they have been more than possibilities. A large body of evidence proving these possibilities is necessary to justify failure to implement expert recommendations from bushfire reports, bushfire research, a royal commission, training texts and coronial inquiries that rapid response and hazard reductions mitigate bushfires. Anti-hazard reduction advocates such as Mooney, Radford and Hancock (2001) and Whelan (2002 & 2003) support bushfire services' stance, but lack adequate data to substantiate their theory. Anti-hazard reduction theorists fail to provide a large body of empirical evidence to meet methodological rules for reliability, validity and generalisability (compare Mooney, Radford & Hancock 2001 to Luke & McArthur 1978,1986). Anti-hazard reduction theory appears politically motivated to protect bureaucratic power bases and pecuniary and non-pecuniary academic benefits such as controlling research agendas, consultancy work and research grants.

Scientifically assessed evidence that bushfires can be suppressed accumulated since the work of AG McArthur and RH Luke in the 1970s (see Flood 1985, Pyne 1991, Flannery 1994, Kohen 1995 & Ward & Van Didden 1995). Decades earlier, scientifically assessed data were unnecessary to reach similar conclusions. Memories of a wildfire managed past were still fresh during the 1939 Stretton Royal Commission. In contemporary coronial inquiries into bushfires, coroners must look into duty of care, breach of statutory duty, if the event was foreseeable and should consider if criminal charges should follow (see Sections 4D, 4F, 15, 15A, 15B, 19 & 22A, *NSW Coroners Act 1980*). However, other legislation suggests that there is no such liability. Section 128(1) of the *Rural Fires Act 1997* (NSW) protects those under its jurisdiction from liability for an act or omission. NSW Parliament may be asked if it meant the act to exempt liability for damage and the many dead and injured over the years following the act's passage. Contradicting the exemption

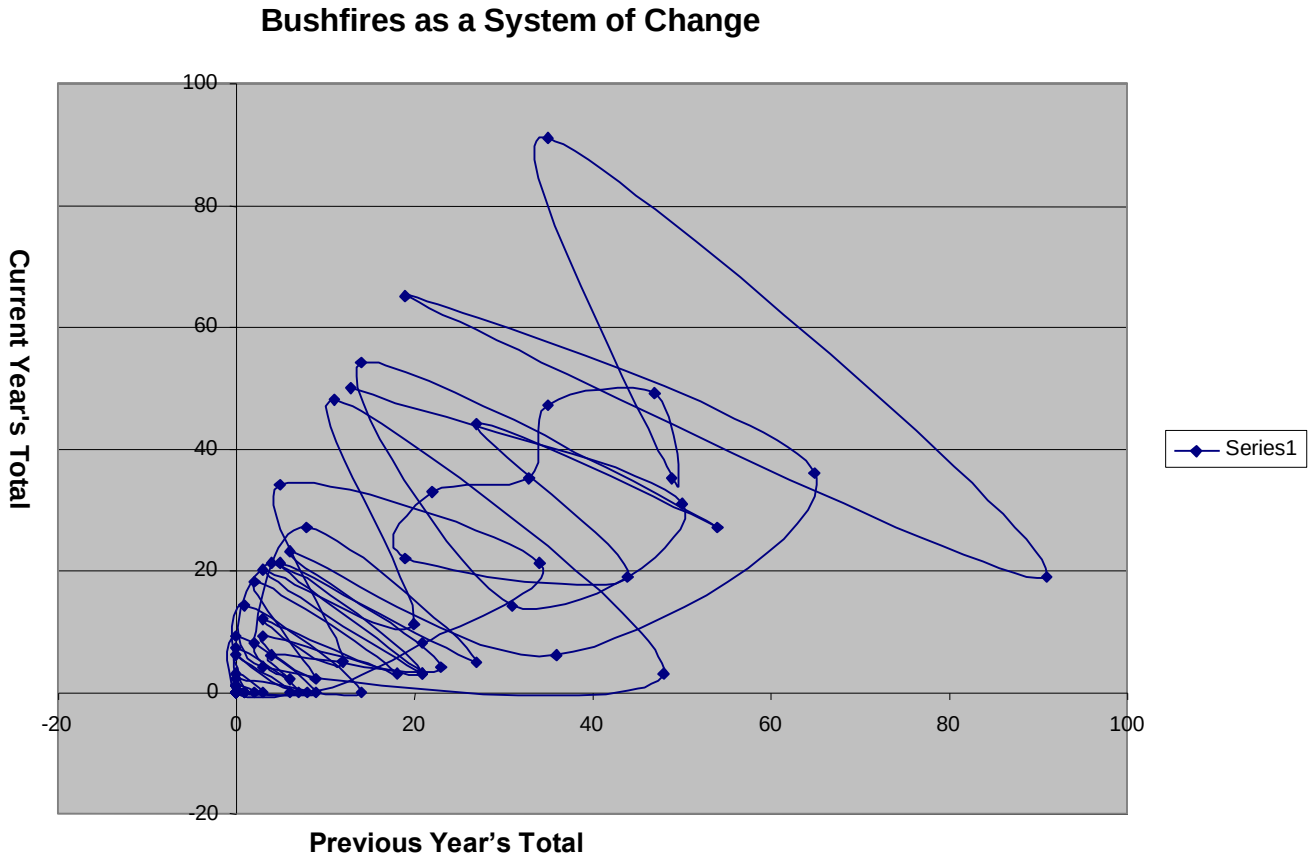


Figure Six: System of bushfire change between 1881 & 1981. It maps bushfires' previous year's data on the x axis against the current year's data on the y axis. The bushfire risk grows from insignificant sprinkles of dots before the 1920s to a dynamic system. Increases in fire intensity are exponential to fuel load, hence the cyclonic shape. Examining the contexts behind this graph's data, qualitative data from Chapter Three's history of Arrawonga adds to explanatory depth. Despite the fact that the area of bush increasingly lessens & the population grows, the bushfire problem soars after the 1920s. During bushfire's time as a comparatively insignificant problem, there was a strong interface between settlers & the bush as shown in my discussion of the founding of Arrawonga with its tent city & population of miners, farmers & timber cutters. The population distributed itself through the bush without the risks emerging in the 1920s. With no adequate hazard reduction strategies in place & with a policy of not putting out small fires quickly, the graph will continue upwards.

clause, Subsections (c) and (d) of Section 3 of the act states its objectives as protecting against injury, death and environmental and property damage. Other legislation also applies to the failure to use rigorously evidenced decisions in bushfire mitigation (see *NSW Independent Commission Against Corruption Act 1988* Sections 8-9 & *NSW Occupational Health and Safety Act 2000* Sections 3,7, 8,9, 10 & 119).

Plate Five: Networks of outraged landholders & volunteer bushfirefighters circulated posters like this on wildfire's devastation. A member of an endangered and protected species, a lyrebird is in the foreground after wildfires left scenes like this across vast tracts of the Snowy Mountains in 2002/3 (photograph courtesy of Noeline Franklin).

Questions like this, probing a dark side of the bureaucratisation of bushfire mitigation are part of the problematic of a white male icon of bravery, as are the social boundaries that excluded a long list of coronial and scientific

recommendations, Indigenous Australian knowledge and emancipatory voices. The dramatic growth of bushfire risk reveals the seriousness of ignoring dissenting claims to bravery and knowledge. Figures Five and Six illustrate the dramatic climb in media coverage of discourse about fires. As a system of change, bushfire stories' upward trending resembles the dynamics of a cyclone. After wildfires' momentous jump from the 1920s, each fire season experienced ever-increasing intensity and frequency. From this tracing of these dimensions of competing black/white/male/female knowledge claims, this inductive analysis moves to overview the themes emerging so far. The next chapter discusses these related parts as a unified complex system of the *habitus* of bushfires and bravery. This final analysis shows the explanatory advantages of heightening sensitivity to data with the contexts of gender, and skin colour as their relevance emerges in this inductive analysis.

CHAPTER EIGHT

The Machinations Of Disaster

The Unexpected Consequences Of Assumptions Of Maximum Expected Utility…

8.1 Theorising Boundaries

This chapter synthesises themes from competing spheres to further explore bravery's paradoxes. This macro-analysis weighs evidence to answer questions from a black/white/male/female epistemological cluster. In this sharply contested problematic, social boundaries filtered claims to knowledge, social locations and identities. Within these boundaries lie the dimensions that remerged as relevant to the bushfire problematic. In this chapter's overview, data from these dimensions fill knowledge gaps, and redress bias, contradictions and assumptions. This final synthesis shows that intense competition over social location has had a catastrophically negative impact on intellectual and ethical atmospheres…

8.2 Burning Boundaries: Black/White/Male/Female Bravery

Bravery's persistence as a notion to amass white male power and status is far from a distant relic. Contemporary mainstream discourses, beliefs and practices reproduce prolifically as mediums of a white male hegemony where bravery and disaster are pivotal in mythologising and normalising black/white/male/female boundaries. Within these at first glance disparate boundaries, social spheres emerged as relevant at various stages of this inductive examination. Questions arose from analysis of the passage of black/white heroes and heroines clashing in several social landscapes. Their struggles began in a synthesis of academic literature where bravery, its meanings and impacts materialised as a guide to trace the problem (Chapter Two). From this review revolving around academic theories of bravery and gender, the question arose of whether women, or, men problematising women was the problem. After an exploration of this epistemological couple, the investigation narrowed its focus to bushfires and the icon of bravery's manifestations through until the fires of 2003. Bourdieu et al's emphasis on epistemological vigilance in research design led to the discovery of the immense contribution of racialised analysis (see 1968, 1991). Midway through data gathering, a large body of evidence confirmed my suspicions of the relevance of Indigenous fire stick farming. This discovery contradicted bushfire service

arguments that traditional Southeast Aborigines did not know how to mitigate bushfires. To explain racism as a contributing factor in the bushfire problem, Aboriginal emancipatory struggles and the suppression of their knowledge surfaced as part of the bushfire problematic in Chapters Six and Seven, adding a third epistemology. This thesis verified the correctness of these competing accounts of bravery by examining three discourses in the Hunter's local newspapers. The heights that technological fetishes reached in white male dominant spheres obscured Indigenous Australians' contribution to the solution; as technology grew so did the frequency and intensity of wildfires, and, discourse about a white male bushfirefighting icon. Other than newspaper archives, no official register of bushfires exists. The sudden jump in bushfire risk from the 1920s may have been because of greater reportage and the greater human interface with the bush as settlement became denser. However, reportage of structural fires always existed, showing that they were always serious problems. There was no similar jump in reports of structural fires in the 1920s to verify the greater reportage and human interface argument. Arrawonga's history shows that between 1881 and the 1920s, economic necessity drove a far higher human interface than that of today. Men permeated the bush felling trees, until the once common red cedar and other valuable timber became a rarity. They also farmed, built roads and railways, mined coal and gold in remote locations often in large tent cities.

One of those cities shrank to become Arrawonga. The hamlet has changed little since the 1880s, except that each year brings worsening bushfires. The paradox of the impact of a white male icon of bushfirefighting bravery was far different to my early expectation of studying brave white women, who in their under representation proved to be one dimension of the bushfire problem. The mythologised white male icon of bravery diminished Indigenous knowledge *and* white women. If an early plan of studying women alone had shaped data gathering as propounded by proponents of deductive methods, the findings would have built on the reassuringly egalitarian description of Cessnock brigades in the Prologue. Women's presence would have acted as data gathering filters to overestimate their influence in this white man's sphere.

8.3 Verifying the Correctness of Competing Knowledge Fields

Rather than reproducing assumptions, research design tested for assumptions' impact. A map of knowledge gaps, assumptions and bias emerged from a synthesis of the theories in the literature review and fieldwork. I set in place strategies to scan for my own and others'presupposition. I observed and analysed in order to map reality. The description of the intrepid and egalitarian Cessnock women became the starting point for data gathering. Informed by the literature review and later data showing intense divisions over frameworks of meaning, I linked discourses of bravery to the social structure of changing bushfire regimes and posed new questions. This tracing of oppositional theories gained clarity and generalising power with the addition of historical data. History also became a means to heighten sensitivity to data by expanding the database to examine finer details in patterns and linkages (see Marx 1848, 1978: 469-92 & Bourdieu et al 1968, 1991: 43-9).

> Moreover, when one uses a synchronic cross-section to produce a system defined by a momentary equilibrium, one is liable to fail to grasp all that the system owes to its past and, for example, the different meanings that two elements, similar in the order of simultaneities, may derive from their membership of systems that differ in the order of succession, i.e. different biographical trajectories.
>
> (Bourdieu et al 1968, 1991: 47)

To study bravery's impacts and origins as a notion, I reconstructed dimensions of its structural manifestations, discourse and symbolism. Questions emerged from a dialogue between data gathering, operations and theorising. From my informants' responses and my own participant observation, I rethought the original questions and took new directions. Revealed were the low-levels of an intellectual atmosphere where dominant white male spheres dug deeper to fortify their social locations ever seeking new defences to maintain control. The archival analysis of a tiny part of white male discourse of bravery… newspaper articles about fires… provided a foil for two far tinier discourses. In the midst of all the rhetoric about white male bravery, feminist and Aboriginal emancipatory struggles were vastly overshadowed. With its paradoxical findings about black/white/male/female bravery, the data and findings from my field and newspaper work were consistent with and add to Indigenous Australian and feminist theory.

8.4 A History of Hegemonic Courage

A synthesis of feminist histories (Chapter Two) showed courage to be hegemonic and gendered (see Greer 1989, Spender 1991 & Shute 1995). Plato (circa 370 BC, 1924) was amongst the earliest mainstream record of analysis of ineligibility for consideration as brave (i.e. women and the low born) and the spheres of bravery (war and philosophy). Implicit in meanings of bravery has been its slippage between those struggling against domination and the dominating; unmysteriously it is a prerequisite for both groups. For Indigenous Australians and white women diminished by iconic bravery, reclaiming bravery revolved around the realisation of exploitation. "It is a sign of subjugation to have lost one's history; it is a sign of growing strength to reclaim it" (Bomford 1993: xiv). Feminist historians linked this realisation to the spread of the idea of equality and its use as a tool to socially restructure (see Rowbothom 1972, Pateman 1995 & Lloyd 1984). In histories tracing white women's gradual social improvements, a lack of data gives rise to problems with generalisation. This study on bushfirefighting allows no doubt that inequality is compounded by ignorance of it as an idea. Knowledge of equality is not a tidy well behaved activity. Leonardo da Vinci recorded a similarly complex interface between social fact and verifiable data in 1503.

Despite his brilliance and prolific flouting of convention, fear of possession by the devil haunted da Vinci (Merejowski 1928: 578-580). A dynamic of fear likely underpinned the madness of two of his servants. Da Vinci knew that if he did not record his heretical ideas in mirror writing, they faced the unimaginably hideous designs of the inquisitors (see Merejkowski 1928: 373, 378 & 557-68). With his great insights, he did notsee the significance of so many white women among the interrogated (see Sallman 1994). Some women self reported as witches… a far more catastrophic impact of belief, identity and the theory effect. Others were victims of cruel accusations. According to feminist histories, until the Enlightenment, only very powerful white females escaped such fates, if, compared to da Vinci, they wanted to only moderately break with traditions of inequality to explore the world of scholarship and be brave (see Thomas 1967, Taylor 1983 & 1995). Expectations of doom may have added a solid dimension to the distorted image that elite scholars of those times wished to give to their social sphere. Perhaps large numbers of intrepid women went unrecorded, but the likelihood is remote, given recordings of cultural beliefs and practices. It would need a time

machine to know more to answer such questions. The hostility shown in the late 20th century to women not knowing their place would be nothing compared to the limiting *habitus* of Dark Ages and early Renaissence women with the burning and torture of witches.

8.5 The Argument for Notions of Courage to Contextualise Equality

Feminist historians found few records of white female courage until the French Revolution (see Frugoni 1994, Duby 1994, Sledziewski 1995 & Thomasset 1994). The data from Aboriginal struggles is even sketchier; records of Aborigines speaking publicly for themselves did not emerge until mid last century. Their bravery is still treated with reservation by the media. Along with glimpses of their heroic struggles in movies like Rabbit Proof Fence, frequent reference is made to negative events such as fraud in Aboriginal organisations, the problem of Aboriginal owned Eveleigh Street, Redfern with its bombed-out houses and the distortions commonly conveyed about Mabo legislation. In the equality debate (see Poiner & Wills 1991), this thesis's evidence attests to bravery's uses in evaluating social location. I highlight the significance of linking bravery with other criteria for examining social location (see Wollstonecraft 1792, 1986 & 1795, 1975 & Brownmiller 1976). In Australia, feminist records give glimpses of the notion of bravery's importance for women's self-preservation and to improve status and class.

In women's emancipatory struggles, Baynton described white men as despicable and exploitative (1902, 1980). Cambridge saw white men as variegated, ranging from smooth talking cads through to wisely or naively supportive (see 1988 & 1904, 1989). Historians such as Roe (1988), Lake (1995), Shute (1995), Pugliese (1995) and Garton (1995) described remnants from gendered socio-political discourses surrounding the two world wars that disempowered women. White women were valuable as supporters of men and breeders of healthy children to defend the nation. Despite their glorification, servicemen could also be losers through bungled attempts at repatriation and the debilitating effects of PTSD. This literature traces a barrage of social facts disempowering white women as secondary in value to white men. Second-wave feminists highlighted the theme of female emasculation (see Brownmiller 1976 & Greer 1979). Revised histories implicate handicapping and hegemonic notions into white femininity (see

Brownmiller 1985 & Russell 1984). In other fields of hyper masculine bravery such as the armed services and the police, a large body of evidence shows femininity's many arbitrary boundaries and lower status and class (see Williams 1989, Cockburn 1984, Walby 1986 & Connell 1987 & 1995).

A resonant theme also emerged from the literature on the sexuality of organisations (see Hearn, Sheppard, Tancred-Sheriff & Burrell 1989). Research in the field of volunteer organisations (where women comprise the majority of carers) also echoes feminist findings of the magnification of white males and women's limiting *habitus* (see Baldock 1990 and Munford 1992). Female carers gained admiration for persevering against impossible odds and their male counterparts for succeeding (Munford 1992). According to Baldock (1990), voluntary organisations focus on volunteers' personal development, and tend to be supportive, democratic and egalitarian to maintain volunteer numbers. This finding was inconsistent with bureaucracies' indifference to the dangers bushfirefighting volunteers face protecting homes and family and their struggles to bring safer practices. Chapter Two also outlined examples of injustices to women in disaster. Women of colour battled prejudice in US public housing, trailer parks and shantytowns (see Leavitt 1992 & Morrow & Enarson 1994). Compared to males, in Australia, white women were under represented in Australian emergency organisations (Gartland 1995). These findings resonate with the findings here on white women and Indigenous Australians in the field of bushfires.

8.6 Black/White/Male/Female Bravery in the Newspaper Archives

Bushfirefighting's growth as an icon has been part of the over representation of white male bravery. Paradoxically, as their reputations soared in iconic discourse, white men pitted themselves against the emancipatory struggles of white women and Aborigines. The impacts of the competing discourses culminated in the wildfires of the 20th and early 21st centuries. From the 1920s, bushfire dangers grew along with the adversarial nature of the discourses, and, the discourse of white male bravery. White men faced the ever-lurking threat of nature, white women and Aborigines. From 1881 to the century's end, depiction of Aborigines moved from descriptions as spineless wastrels and members of a doomed race. The century's end saw their brief depiction as murderers with unevidenced accusations. In the early 20th century, Indigenous Australians returned back to

portraits of pitiful wretches. It was only in the 1930s in the *Herald* that others began publicly speaking on Aborigines' behalf, problematising the hardships of racism. The 1938 *Australian ABO CALL* lasted a mere six months due to a lack of advertisers and the intense poverty and literacy problems of its market niche… nor did it sell well in the white population. It was one of the earliest examples of Indigenous Australians talking in newsprint for themselves. The first Indigenous broadsheet was unrecorded in the *Newcastle Herald and Miners' Advocate*. *Australian ABO CALL* described pressing issues: ramshackle dwellings in barbed wire enclosed prison camps, overcrowding, a shred of education, forced labour as servants, low rates of pay and sometimes no pay for work for white people, massacres, stolen children, the vote and the right to drink alcohol. In place of a traditional diet that was varied and rich in protein, minerals and vitamins, Indigenous Australians lived as captives on diets of flour, sugar, tea and a weekly ration of about 500g of the cheapest meat, *if* their "Protectors" did not sell their rations. Adequate in calories alone, rations brought TB, pneumonia, rickets, berri berri and malnutrition. *ABO CALL* described apartheid like differences in health care; Indigenous Australians who went to hospitals usually died. Some, according to *ABO CALL*, escaped the reserves and missions to gain work, but were lucky to be paid a meagre wage. It took 30 more years for Aboriginal voices to be heard in the *Herald* and the validity of the problems they faced and rights they demanded to be recognised; meanwhile, white men had achieved god-like status in the new area of bushfirefighting.

The social consequences of the cruelty and centuries of insult have left Indigenous Australia bitter and angry. As white men received automatic consideration as primordially brave, a compelling battle faced Indigenous Australians. It was not just the matter of correcting rhetoric about who was considered the most glorious; they faced the dilemma of reversing their circumstances from near ruin. In this struggle, as self-identifying as beyond criticism, gloriously brave and therefore primordially entitled to their superior social location, white men resisted attempts to socially restructure with determination and great organisation. Detailing this struggle had no monetary benefits for the press while hegemonic forms of bravery translated into great economic value as a means to boost circulation, attract (predominantly white male) advertisers, and, in

turn, enhance bushfirefighting as an icon. White women as the partners, daughters, sisters and mothers of white men fared vastly better.

Nevertheless, the vast body of evidence on the arbitrary nature of women's low status and class presented here is only a small sample of literature from this area. The peak in white women's bravery is consistent with findings of theorists such as Rowbotham (1984) and Thomas (1967) that women gain equality only to lose it once crises pass. Despite prolific feminist writings, in the *Newcastle Herald and Miners' Advocate* and its associated publications, white women were described as bravest during the early stages of World War II, when feminist literature was not at one of its peaks, but war risk was. When their usefulness ran out, white women were again problematised. Their old roles as lesser than white men once more guided the *Herald*'s editorial philosophy. White women's struggle was no longer accepted without reservation. New objections rose against their emancipatory efforts, problematising lower birth rates, sexual harassment and childcare for working women. Post-war Aborigines were depicted as prone to crime, substance abuse, poverty, poor health and low literacy and numeracy rates. The unforeseen too, had occurred with gloomy reports of soaring "half cast" birth rates… Unlike white women, there were problems with having too many Indigenous children. Withstanding emancipatory discourse after discourse, social boundaries inherent in the problematisation of white women and Indigenous Australians have allowed white male icons to flourish, attesting to the power of mainstream paradigms.

8.7 Paradigms' Impact in Disaster

Within the fields of mainstream and feminist disaster, disaster is generally white male governed. In my research on bushfirefighters, the findings show that both white women and men cared for others, performing work, which in the paid emergency and armed forces has been fraught with problems, as were two of the brigades… Arrawonga and a brigade that Cessnock informants said no woman joined because of its sexism. Other examples in the Prologue identified Cessnock women for their excellence in firefighting. Compared to the brigade at Arrawonga, their bushfirefighting was an example of copybook excellence. Similarly articulate and bountiful sources of information, informants from my network of dissident firefighting captains also showed high-level knowledge of bushfirefighting. Key network members of this dissident network kept in contact with me with updates of

their efforts to implement scientifically assessed information to safeguard lives, property and the environment. They acted as sounding boards for me to learn about bushfirefighting. Along with its variegations in standards, brigade work was an example of women and men's potentials to be brave and useful in disaster. In 1996, Lake Macquarie's volunteer bush fire service had a small proportion of women firefighters (11.5%). I calculated the 11.5% statistic myself from printouts from Lake Macquarie Fire Control's databases.

In 2003, I asked if media images of a white woman in most groups of three to four bushfirefighters reflected a new proportion. According to Fire Control Officer Steve Souther, the ratio had grown to 23.45%, (personal communication 2003). The increase came at a time when volunteer numbers had fallen to levels where research was commissioned to find ways to bolster numbers and recruit people with better firefighting potential. This second statistic of more than double the number of female firefighters in 1996 could not be verified by record inspection for privacy reasons according to Mr Souther. Other bushfirefighting captains confirmed his words that about one quarter of bushfirefighters are now women. The changing patterns of gendered identities amongst the brigades reflect the impacts of differing epistemologies: women as the problems as opposed to the problem of women's diminution. With danger worsening, women's problematisation lessened. The new statistic is consistent with feminist historians' findings that women are welcomed in times of crisis (i.e. publicity of growing dangers both from bureaucracy and fire). Once the crisis passes and improvements are made to bushfirefighting practice, will these feminist findings hold and women's welcome diminish? More research is necessary. Unlike the 23.45% women statistic, other statements made by paid bushfirefighting hierarchy proved less accurate and a source of conflict with volunteers.

Claims to the efficacy of buffer zones proved mortally dangerous assumptions as Canberra's fire tornado tore across parks, paddocks and 100m buffer zones. Similarly contradicted were claims of the successes of environmental impact reports where Aboriginal sacred sites and endangered species precluded hazard reduction. My inspection of wildfire impacts in Kosciuszko National Park revealed

such beliefs' impact. About 30 years of HR neglect brought vast tracts of dead and unregenerating alpine ash. Apart from a few birds, there was no animal life after wildfires. Alpine ash grows profusely in national park mountain country. My observations of a wasteland were confirmed by similar reports in national parks in the southern highlands of NSW and Victoria. Linked to the suppression of Indigenous knowledge of bushfire management, there was also no evidence of Aboriginal brigade members in the Hunter… an area where 2.8% of the population has Indigenous ancestry (see Australian Bureau of Statistics 2001: 14 & 1996a: 11-13). This points to connections between bias towards skin colour, the exclusion of vital knowledge, low-level performance in bushfire mitigation and state of emergency disaster. Along with the impact of the loss of Indigenous knowledge, other traditions have impacted.

Several informants besides Peter Cochran and Andrew Thomas described cliquey hyper masculine cultures of bullying similar to my fieldwork experiences as a female volunteer who did not know her place. Informants such as Kurt Lance told me of their frustration at the hours wasted as they Commissioner Koperberg and others toyed with their efforts to protect the environment and the community. The commissioner listened to their grievances about poorly based decisions, inviting them to meetings of paid RFS personnel, where their ideas would be defeated. All said rigid hierarchies affected decisions' quality. With so much time spent on infighting over who was considered eligible to be considered knowledgeable and allowed to make decisions, poorly based decisions and wasted resources raised risk. Andrew Thomas said he almost collapsed under psychologically once his wife became ill. Data from the area of PTSD also revealed complexities that are of great importance in improving stress management in bushfire mitigation to lower risk. In my literature review, a large body of evidence showed that bullying resulted in higher risks of contracting PTSD after trauma. In my fieldwork and interviews, no women reported high stress levels, but Group Captain Cliff Bushell, Glen and Deputy Fire Control Officer Harry Baines reported PTSD. This finding may be explained by women's lower representation in my sample. Women also tended to more cynical assessments of this white male dominated sphere that looked to ways of circumnavigating problems such as sexism and bureaucratic red tape. Of all the women interviewed, only Vanessa said she wholeheartedly believed in the

Department of Bushfire Services. Her conflict-ridden brigade was “one big happy family”.

8.8 Post Traumatic Stress Disorder

Nevertheless, recently in the area of mainstream disaster, white females materialised as problems in the literature of psychology and psychiatry, implicitly justifying women’s low numbers in disaster management. In the erratic cycle of being shaped by and in turn shaping society, anti-female bias from this literature has gained currency in the face of a large body of empirically verified evidence. In psychological/medical fields, females have been problematised as more prone to PTSD than males (see Palinkas, Downs & Russell 1993; Green et al 1991 & Green et al 1994). As the data from this research on bushfires shows, apart from Heather with her inordinate powers from her décolletage and overt sexuality, women at no time posed problems to risk management and none had problems with stress. Female susceptibility theorists do not take into account that the biggest factor in PTSD’s is exposure to violence such as rape and sexual assault. Women in my research on bushfires confirmed feminist findings of women’s problems with unsupportive backgrounds in brigades like Arrawonga. But, remarkably women there showed less problems with stress than Arrawonga men. Despite femininity’s disadvantages in limiting opportunities and bringing hostility for overstepping one’s “place”, most coped better than men who had far more problems with drinking, conflicts over preserving power bases, and, as the confirmed rumours of drug taking at Arrawonga showed, marijuana. No women were victims of rape or domestic violence. The evidence of resilient firefighting women such as Cherie and Penny Sutherland add further weight to counter the female susceptibility thesis. The review of feminist literature and the section on emancipatory discourses show that inequality entails more hardship and lower morale for disadvantaged groups. Arrawonga, and to a lesser extent Cessnock, confirmed these feminist findings on womens’ lesser earning capacity and power. At Cessnock low morale was never shown to be a problem, while at Arrawonga with its attempts to bond over sausage sizzles, conflict was the norm and PTSD in men a problem.

Interestingly and pointing to the patterning of equality and stress management, in Leavitt (1992) and Enarson and Morrow’s (1994 & 2000) gendered and racialised

studies, PTSD did not emerge as a post-disaster problem. There was an over riding theme of men as further hazards to be circumnavigated. Informants had well-developed women's networks, and, particularly in Leavitt's study, there was a spirit of feminine self-reliance. Ollenburger and Tobin (2000) analyse the context behind the figures of the female susceptibility theory, examining a community with female over representation to the stresses of poverty in flood. The pressures of paying bills, the inaffordability of insurance to cover disaster damage and their lower likelihood to receive support because of their low status predisposed them to medication for depression and anxiety. After floods, women's high prescription drug consumption more than doubled from five to 12.4%. Men went from 1.8 to 4.4%. The differing scenarios in floods, poor women's disaster responses in the US and Australian bushfires show the often unexpected outcomes in the patterning of equality, support and resistance to stress. This partial resonance with Mereth and Brooker's (1985) World War II synthesis and the Platonic importance of morale in battle (see Plato circa 370-5 BC, 1888), points to the accuracy that inductive analysis brings to understanding stress's complexities. In this inductive analysis of bushfires, contradictions, bias, anomalies, assumptions and knowledge gaps act as guides to heighten data sensitivity. Questions about stress management in disaster bring findings revolving around skin colour and gender's traditions, discourse and practices. Rather than problematising the disadvantages of feminine locations, I ask why a cluster of predominantly "feminine" symptoms is targeted as the principal embodiment of psychological damage from trauma.

Some more "masculine" embodiments include suicide, substance abuse, bullying and other forms of aggression such as bureaucratic exclusion of scientifically assessed evidence… all problems directly connected to the more deadly problem of wildfires. More masculine stress was of far less concern to proponents of PTSD theory within the literature and treated only as subsets of the main criteria for a PTSD diagnosis. I also raise empirical and theoretical questions about PTSD theory. Rosenman (2002) demonstrated the value of heightened sensitivity to data with his multivariate macro analysis showing how rape and sexual assault account for women's higher PTSD levels. Earlier, Kessler et al's (1995) study claimed that compared to men, about twice as many women get PTSD but are exposed to fewer traumas. In reaching their conclusions, exponents of the female

susceptibility thesis relied on quantitative research methods using questionnaires based on fallacies about trauma and using defining criteria that ran contrary to the dynamism of human interplays. In light of problems with reliability, validity and a lack of evidence, I argue the need for further research, informed by the sizeable body of relevant feminist empirical evidence. Rather than assuming disadvantaged groups inferiority, a large body of findings explaining a higher PTSD incidence in disadvantaged groups shows that equality is a stress buffer (see Andrews, Brewin & Rose 2003, Turner 1994, Ullman & Filipas 2001, Allen 1986, Penk & Allen 1991, Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar & Weiss 1990, Rosenman 2000 & Friedman 1998). Citing Kenardy, Carr and Vaughn (1990) and Raphael and Meldrum (1995), I also raised questions about the effectiveness of debriefing as a PTSD antidote.

A large body of evidence shows that counselling embeds trauma further in psyches, making the disorder almost three times more likely for those not debriefed (Wessely et al 2003; Mayou, Ehlers & Hobbs 2000 & Bisson et al 1997). However, the paid bushfirefighting hierarchy considered such debriefing a necessity. Some emergency workers in my study considered it a right. As well as receiving counselling, the three men said they had PTSD to debilitating levels after operating in disaster situations, which were fraught with conflicts, tensions and impossible odds. These bushfirefighting informants described debriefing as a wonder cure. As a member of the paid hierarchy, Deputy Fire Control Officer Harry Baines insisted bushfirefighters need counselling after trauma. As a self-confessed counselling recipient and after appearing authoritative and confident in his first interviews, by the middle of my fieldwork he was on stress leave, his hands shaking as he chain-smoked. Similarly showing serious problems with stress, another devotee of counselling, Cliff Bushell cried as he recounted developing PTSD. Also receiving counselling, Glen became belligerent after drinking heavily on a boat cruise and said there were times when he thought he was battling in Vietnamese jungles. Somehow, his trauma had grown from his service as ground crew at an air force base to fighting in jungles. In the case of white male iconic bravery, fallacious perceptions of white male: invincibility, primordial expertise in disasters and an inherent right to govern proved deciding factors for Cliff and Harry's PTSD.

This thesis's findings show that such notions are life-threatening hazards to those who believe in them as well as to those around them. As well as physical risk they can traumatise. The contribution of counselling in furthering the negative long-term effects of trauma also needs quantified assessment and may in time become subject to personal injury claims. Like da Vinci's descriptions of belief in possession, to what extent do notions of PTSD enhance manifesting it; to what extent were myths of male bravery, impossible odds, trauma, debriefing and stresses responsible? How does the myth of masculine invincibility contribute? Glen said he collapsed psychologically with the loss of morale after the Vietnam War. Rather than glory, it brought vilification. Cliff reported being shattered when he learned that he could not control a wildfire. "I'm a person that absolutely hates to be beaten by anything… I really take it as a personal battle when anything is out of control." The emergent themes point to the negative impacts of oppositional foundations of knowledge and experience… Sharp divisions buried a large body of historical knowledge and scientifically assessed findings about bushfires. This raises further questions of the theory effect in white male iconic bravery and its ability to obscure fact with myth causing serious harm. This research shows the risk that the myth of Invincibility poses.

8.9 The *Habitus* of a Microcosm: the Brigades

I explored ways white women and men constructed a white pioneer myth of bushland as a site of epic discourse, legitimised by technological and mainstream historic discourse. A number of possibilities emerged from the literature review on the myths that can concretise into white women and men's networks. From Chapter Three, describing accounts of Arrawonga's history, the district's senior citizens told romantic tales of pioneers and large families. White male husbands were paramount for women to gain a reasonable income. Officially, the white male wage was about twice females' prior to World War II, in effect, Arrawonga men brought home about three times as much as women. Marriage was seen as a vocation for women, where according to Edna, "sometimes men could be good and sometimes bad". Women could not leave if they were unhappy because they faced biting poverty. According to her, this restraint was for the good as it provided stability and notions of bravery and status for women. She told of a midwife beating a woman with a stick because she lacked the prerequisite courage to

endure a painful labour without screaming. Emily limited social outings because her 15-year-old son hid a knife under his pillow when she left her children alone to go to a housie night. White women's networks centred on the family and tenaciously remaining in the home of their male breadwinners. Prior to World War II, women faced death from childbirth in the vocation of mother and wife. These white women were in the main powerless stoics enduring hardship. Such accounts of bravery are of a passive form. While the lot of women was seen as hard, it was not seen as unjust. For these informants, contemporary marital problems and feminism were seen as neurotic and the end to happiness. Nor were the injustices, extreme poverty and hardships that Indigenous Australians faced mentioned without prompting.

Informants then described mixing freely with people from a campsite beside the railway. Nor was it seen as of any significance that in their romantic accounts, Aboriginal people lived in a railway shantytown. In this way, a category of bravery amplifying white men has normalised white female subordination, genocide and atrocities of the war against Aboriginal people. This then, provided an understanding of the kinds of philosophies and interpretations of the past, in order to reach a better explanation of the Arrawonga brigade's unenlightened philosophy towards women, its preponderance of white male firefighters and leaders and ignorance of a wildfire free past under Aboriginal land management practices. Informed by feminist theorists such as Williams (1989) on non-traditional work, I examined the way Arrawonga firefighters excluded, argued, discussed and/or supported in gendered, invisibilised racist and non-stereotypic ways.

They also did things altogether unexpected by me, but consistent with radical feminist ideas of men's women: competing against each other for men. From the work on the sexuality of organisations and on gendered work exclusion, I examined the dynamics of leaders and followers. A disempowering belief in the rightness of men's leadership permeated the brigade. Not only did it disempower women, but in its fictitious nature, heightened risk in decision making in disaster… an area where mistakes can be fatal. This mythical male superiority had old connections to union traditions where men earned many times more than women

to be the mainstay for a house of one's own and an income to support children without the hardship of poverty. The brigade felt the research a threat as I witnessed bitter and inarticulate power struggles and their accompanying bungles. The chapter on Arrawonga's history heightened data sensitivity to answer unanswered questions from questionnaires and participant observation. It showed the impacts on social location from patriarchy with its Methodist and union influences that saw men's leadership little challenged. As a tradeoff for women's acceptance of their roles as followers, there was much inter gender hostility and resentment. Unlike the accounts from Cessnock, women did not see themselves as men's partners or comrades. As Emily explained to me about choosing a man for a husband "sometimes they were good and sometimes they were bad". Cherie had grown up thinking that marriage was the only option for a secure future. The myth left her feeling disillusioned as if she always just missed the boat, in part-time work and without an income in school holidays. Only one of the five women with whom I trained in the Arrawonga brigade was happy to be a leader. Initially, some of the senior men made considerable efforts to appear to encourage women to take a supervisory role. If appointed, four of the women complained about extra work and a man speedily took their place. The support for female leaders collapsed and the relations resonant with feminist theory emerged. Consistent with notions of hegemony, all five women did not seem so serious about learning as the men and often chatted rebelliously during explanatory talks. In so doing, they added further discord to the already tension fraught brigade to increase risk in time of disaster. Three of these women happily described fighting the 1993/4 fires. These three women were brave, but consistent with Emily's applauded brave stoicism, in the roles of followers, not leaders. Of the five Arrawonga women, two had been markedly more aggressive in behaviour than any of the men.

Another belligerent woman was, along with Heather and a man with a disability, a brigade cook, a position that to atone for my lack of popularity, I also filled. The notion of *habitus* proves useful as an explanation. There was a juggling act of strategies around "masculine" and "feminine" identities. The findings do not point to clear cut exclusion or of people consciously calculating how they will go about things. A better explanation lies in the ways women and men have cultivated a taste for their social locations and the identities that they formed in this patriarchal

social location. In their varying life strategies, various forms of symbolic violence have been normalised while others have been discarded as unacceptable. For example, Heather, who was amongst Arrawonga brigade's most belligerent, said she was keen for promotion but usually brought homemade cream sponge cake and donuts. Heather did the books for the brigade and a lot of other feminine work such as sweeping and mopping. She complained about sexism in the Arrawonga community with its rumours about her glamorous attire and regular presence in the fire shed outside of training times. Heather's leadership was also fraught with problems with an inquiry over a burnt fire truck under her command. Stories of bungled operations formed a stark contrast to other firefighting women's descriptions.

The Amazons described acting as leaders and talked angrily about sexism and their successes in containing it. Plain dressers, they rejected arbitrary beliefs about sex, as individual performance was more important in reaching the goal of wildfire prevention. Unlike Arrawonga, those who were protecting their own properties predominated at Cessnock. Far more emancipated in their views than at Arrawonga, those lacking university education did not attribute their emancipated philosophies to feminists. In my interviews of Cessnock women firefighters, I found that only two amongst the university educated knew of, or appreciated Greer. Only one woman knew of Greer in detail and most were unaware of her altogether. Notwithstanding, they passionately described Greer's notion of sexism and intense antagonism towards discrimination, stressing the importance of choosing egalitarian partners and breaking gender stereotypes. Cessnock women described reading more in their childhoods than those from Arrawonga.

They described childhood activities once described as tomboyish, which are now normalised to a far greater extent. Their anonymous feminist inheritance began in childhood with the impact of liberal feminist thought on child rearing practices and changing aspirations and expectations for womanhood (see Eisenstein 1984, Bradstock & Wakeling 1991: 208-209 & Cambridge 1988: 18, 43-45, 128 & 62). Through channels such as the literature of Blyton and sport for schoolgirls in schools, liberal feminist ideas formed part of a social inheritance, which had been

normalised and sanitised by removing the feminist tag. In those days too, identification with the "women's rights" movement brought mainstream disfavour (Bradstock & Wakeling 1991: 207). Women should be better educated and more active in outdoor pursuits foremost in order to be better wives and mothers, according to early feminist notions (see Bradstock & Wakeling 1991: 208) as epitomised in Blyton's work. For the 1950s and early 1960s, she gave female readers a modicum of access to the non-stereotypic with ‘tomboy’ George and the children’s brave survival of extraordinary dangers. These Amazonian women appeared to have only absorbed the liberatory aspects of this literature.

All completely rejected the notion of women as subservient, speaking of women's equality as a necessity. They had a taste for, and habituation with firefighting to the point where they saw it as unexceptional. However, the firefighting women's roles are anomalous within prescriptive feminist paradigms and within the patriarchal system. In the fires and in their domestic lives, the women reminded me of a discursively egalitarian oasis with occasional glimpses of the gender conflicts characteristic of outer society. I call these women Amazons. The term was inspired by Peggy Reeves Sanday's (1981: 86-88) accounts of the original Amazons or Dahomeans. In Dahomea (in West Africa), all public offices had equal male and female counterparts and the army comprised about 60% men to 40% women. This society is said to have operated on an egalitarian basis until European colonialists installed male chiefs who were more ideologically compatible with the new order. The Hunter region Amazons held similar notions of femininity and importantly, both developed gender identities in an accepting social climate that admired such women. Only two said they were feminists, but connections between first-wave, second-wave and new age feminisms emerged from childhood accounts through to fire experiences.

Women from the Salvation Army and brigade volunteers who purveyed food also gave interviews, one describing hospitalisation after the 1993/4 fires for stress and the junk food diet supplied to emergency bushfire response workers. The danger of fires was a secondary risk compared to the long hours and a diet consisting mainly of fried sausages and onions on bread rolls or fast food outlet takeaways. None of these Amazons were the man-hating warriors of popular myth, analogous

to popular fallacies surrounding feminists or like Mary Daly's (1978) concept of the radical separatist "Amazon". Hunter Amazons were not anti-male and did not undergo a change of consciousness. Within their *habitus*, their notions of equality and of the nature of femininity began in the fashions for childrearing that impacted upon their early childhood.

Accounts of Hunter Amazons' childhoods portrayed a mixture of patriarchal and non-stereotypic gender behaviour for parents and children alike. Fire truck driver, Daphne Jones spent her childhood on a sheep, cattle and wheat property. As a girl she mustered cattle, but her mother was said to have performed more domestic activities. Bushfirefighting was an honourable activity for rural women, carrying considerable status. Daphne, a qualified teacher and a self-employed businesswoman, said she read avidly, including adventure novels. Blyton was one author she and other Amazons particularly remembered. Penny Sutherland, 20 years Daphne's junior, was studying medicine. For childhood reading, she listed The Secret Seven, the Famous Five, Huckleberry Finn, Black Beauty and any comics she could find. She played tackle football, cricket, cowboys and Indians and bicycled.

Despite rational theory's virtual freedom from discussions of gender in academic literature, androgyny and firefighting was considered rational in these women's *habitus*. Deborah Felix's domineering mother was the only parent opposed to the trend. Nevertheless, this Salvation Army minister became an accomplished cricketer who said she read and reread Blyton's the Naughtiest Girl in School series as compensation for being forced to be a model child. Sexism existed for these women, and in the main was overwhelmed, not by a united sisterhood, but by the actions of both genders and/or the freedom the women held to steer their way around such barriers. While the notion of revolution is a dynamic component of the public discourse in the struggle for improving social position, it did not emerge as important in their accounts. Nor was their role as mothers and wives giving voluntary community support facile submission to patriarchy. The female firefighters were embedded within a society where powerful feminist networks brought changes to alter social structure and the discourses about women. Within the Amazonian oasis, women could be agentive in a way that did not necessitate

conforming to stereotypes.

These women described themselves as powerful within marriage and their firefighting activities. Far from passive and helpless in the face of danger, seven of the nine firefighters said they were not feminist. Being an acknowledged feminist was linked to having an education in the humanities. No connection appeared between class and the Amazons' non-stereotypic activities as many were from working-class backgrounds living on properties with several working as, or training to be professionals. My study on women from cane growing North Queensland also found no linkage between upholding stereotypes and class (see Finlay 1992). Confirming the heightened sensitivity that the use of *habitus* brings to analysis, most of the bourgeois Queensland women resembled the mothers of Amazon firefighters with gender patterns centring on the domestic.

In contrast, only Arrawonga's Jenny described similar childhood experiences to the Amazons and talked about feminism with passion. As a further departure from Cessnock attitudes, she said she felt excluded by her brigade. Compared to Jenny and Cessnock informants, Arrawonga women knew nothing about Greer and little about feminism. They also enjoyed far less status to their men folk both in career and on the fire ground. These two samples illustrate the impacts of feminism's patterned dissemination and of the impacts of the wide-scale media emphasis on feminism's eccentricities and patriarchal myths of white bravery. Adding to the void of Aboriginal knowledge, my samples were most unlike Baldock's (1990) finding that voluntary organisations are democratic and egalitarian. On all levels, the notions guiding the resultant identities connected with ideas and practices from a range of past social locations and patriarchal and feminist traditions. These impinged on identities in an indeterminate series of interplays to produce clustered effects.

Interplays between agency and social locations acted as lenses through which individuals interpreted social spheres, social structure, producing identity, experiences, emotions and behaviour. Conformists or conservatives were guided by following the dictates of so-called normalcy. With their patriarchal unionist and Methodist backgrounds, Arrawonga men formed a rigid network where women

were accepted if "*they knew their place"*. Arrawonga women complied with this location. In the exchange for women's acceptance came feminine belligerence. In egalitarian Cessnock networks, women described men accepting them in all roles of bushfirefighting. Knowledge of the mythology of social facts was a conceptual tool that revolutionised the Amazons' spheres. Their accounts were anomalies in most disaster literature but consistent with Enarson's (1984) finding of the patterning of equality amongst foresters. To explain the stark contrast in attitudes to equality in these two groups, Bourdieu (1990: 15) wrote of sociology's task in highlighting the illusory nature of social determinants as a liberatory strategy. While it is possible to push back social boundaries, he also points to the illusions of social freedom and unbounded social worlds. Jenny found herself in a hostile environment when she sought equality. Social networks with similar philosophies and objectives accounted for Cessnock's egalitarianism. According to Cessnock informants, recruits who defied their non-sexist conventions were pressured to conform. In Captain Penny Sutherland's commanding words, she appreciated discussion with her men, but the final say was hers and "then, *they had better bloody well do it!"* With its staunch unionist foundation of patriarchy in Arrawonga, women had to know their place. The boundaries of these contrasting patterns were tangled and not completely knowable.

At some stage lost in time, social boundaries developed in the interplay between the large human forebrain, social behaviour and the ability to organise biological characteristics. It is the human's forebrain size (see Nolte 1993), which makes possible such intricately patterned social facts interlacing the biological need for sustenance, shelter, self-preservation and reproduction. In this sense, the social fact is linked to the biological fact of the forebrain's capacities. The way thoughts emerged is central to delineating between biology, agency and social conditions. However, boundaries constrained through social facts that normalised power distributions based on the arbitrary. At both the upper echelons of the bushfire services and in conflict-ridden brigades like Arrawonga, these boundaries obstructed reaching solutions to the bushfire problem. Struggles over power overshadowed a basic biological need for self-preservation. Based on social facts, boundaries acted as filters to gender and racialise class and status and increase risk as they hampered evidenced decisions. The rules for social boundaries

examined here have inheritances that were traced back past the last 2,000 years. A problem lay in conceptualising the nebulous boundaries discussed and the amount of data discussed so far. Instead of treating qualitative and quantitative approaches as incompatible, I gained accuracy and data sensitivity by using both to examine contradictions, knowledge gaps, anomalies and assumptions. Faced with so much data, there was a difficulty in explaining the patterns of the problematic's complexities.

Complex systems theory (see Gleick 1989) had the same patterns as my findings on boundaried black/white/male/female spheres. Just as Mandelbrot's maps of solutions differed from those drawn by other computers and, by the same computer at another time, human systems form patterns. As one of complex theory's earliest proponents, Mandelbrot explained patterned noise in the links between computers. He showed that noise was an integral part of computer networks. Computers programmed with a specific equation on a feedback loop always took unique but similarly patterned paths (Gleick: 84). In the persistent boundaries of human systems, there is a sense of history repeating itself as themes recur, but in uniquely different ways. Infinite divisions emerged at a micro level. These divisions moved upwards through to large systems, organised within arbitrary meanings, beliefs and practices linked to gender, skin colour, status and class. These infinite divisions fit within finite systems. Mandelbrot named these boundaried formations fractals. I see the notion of fractals and the way identical computers produce differing Mandelbrot sets as analogous to the interplay between agency and social systems. The vagaries of where individual's agency begins and social structure leaves off in interplays; I compare metaphorically to the infinity of the irregular formations of fractals.

As so often happened in interviews, just when an informant appeared driven by rules and conventions, unpredictable elements such as creativity, pure whim and even error emerged. The correlation expected of a mechanical theory mixed with the unexpected producing accounts and activities reflecting concrete facts, the arbitrary, misinformation and the innovative. On a micro level in Arrawonga, women knowing their place were welcome. More aggressive in communication style than the men, they did more stereotypically feminine activities like cooking,

allowing men to lead (except for Heather) and standing back to allow men to perform activities like holding fire hoses. Heather somehow slipped through the boundaries of her sphere to reach the position of Deputy Captain… no mean feat with the limitations placed on women there. Her views of men were tempered with the observation that they were not the gods that they make them out to be. There were degrees in levels of white male worth. She portrayed her local brigade as far above men in the paid NSW Fire Brigades, where as a woman "you would really have to kick heads to get on". While no evidence emerged to substantiate her claims of greater sexism in paid brigades, Heather kicked heads, successfully elbowing Mark out of the way to lead the fireworks night at the scouts hall. She attacked many on her way to achieving the rank of deputy. This research examined many such struggles over social location. In each, whether at a macro or micro level, patterns emerged by juxtaposing histories of ideas and competing knowledge claims. Instead of a certain degree of autonomy in life's choices, in Arrawonga, there were not the extended networks of support to reject sexism. Mothers watched teenage girls with eagle eyes. Some of my elderly informants said they still managed to fall pregnant and were considered lucky that the father of their children married them. Marriage was an economic and social necessity. First wave feminist ideals of *The Dawn* of women being able to support themselves financially and marry for companionship had not connected with this bush community's values. After putting together such evidence, contrasting spheres were shown to grow out of connections with ideas. These claims to knowledge were evaluated to verify accuracy. The interpretation of social spheres resembles a room of distorted mirrors.

Accounts and observations did not show people exactly reproducing their social sphere, but giving varying interpretations of it. In this thesis, these varying interpretations were traced back through time and across social networks. At the same time as linkages and patterns emerged, the findings for both Arrawonga and Cessnock were also unpredictable. Metaphors from complex systems theory allowed a means to conceptualise and explain these patterns. Unlike computers and other complex systems like turbulent water, the human brain is so complex that much of its behaviour can only be guessed (Nolte 1993: 360,371). Made possible by this large and slightly mysterious organ, the fractal-like nature of social

boundaries can be seen at the micro level, moving up in size through varying social networks, to institutions. Giddens describes the way the individual makes society and society makes the individual as the double involvement (1982: 10 & 14). In reference to the world of knowledge, he calls the interplay the double hermeneutic (1992: 54). Giddens's theory of reflexivity overlooks the problems of the variety of related variables such as mystery, conformity, revolution, error and whim that interlace dealing with the social sphere (see 1992: 36-45).

The patterns emerging from the data show that social systems are far from mechanistic as Giddens's theorised (1992: 15-16). Knowledge does not spiral through society, incorporating and remaking sociological knowledge, but travels according to boundaries, which are complex, unpredictable and patterned. An homogenous, social intellect has not made boundaries disappear. There has been no evidence of a mechanical doubling back of the interplay, society being made and making the individual. The spiral is riddled with boundaries and the unpredictable. Struggles over social location connect the spiral to class, skin colour, age, religion and ethnicity. Boundaries emerge as tastes, rules and attitudes that characterise differing social spheres. Interplays between agency and social spheres produce differing identities that fall loosely within a class, gender, occupation, knowledge area, institution, age group or skin colour. These social spheres can be as largely organised as the clusters of concepts used to interpret the notion of gendered and racialised identities. Social spheres also have a more minute scale in linkages of family, friendship and work. On a smaller scale again, there is the interplay between the body, agency and social conditions. For example, PTSD's main risk factors are located at various points in the social, psychological and physical… Less cohesive and empowered social locations link to ethnicity, skin colour and gender. Disadvantaged groups are more prone to many risk factors. Black US defence personnel are more prone to placement in battlefields' most dangerous areas and women are most prone to being raped. Less socially empowered individuals are prone to being less psychologically empowered to deal with stress. Here, the cultivation of tastes and attitudes of self-sufficiency for recovery is less likely. Making psychological recovery even less likely, the reproduction of hostile social locations links to a lack of support, which also increases PTSD, risk. Hence, in the antagonistic RFS environment with its

contradictory directives on bushfirefighting and reliance on counselling for stress management, Cliff Bushell and Harry Baines developed PTSD. Added to this thesis's findings of intense social competition's negative impacts on intellectual and ethical atmospheres and safety, the data presented here has shown no "presumption of wholesale reflexivity- which of course includes reflection upon the nature of reflection itself" (see Giddens 1992: 39).

Viewing the black/white/male/female boundaries and the gravity of their impact on the Australian bush and those dwelling by it, there is little evidence to support a homogeneity theory. The data here contradicts the claim that since the Renaissance, the neo-European population has become aware of its actions and ever more empowered to question all its actions, like an editor a text. I have presented a large body of evidence showing social actors' lack of awareness of the likely impacts of their actions and of the hegemonic nature of their social location. In some instances such as the brigade at Arrawonga, the deluge of information from competing spheres overloaded individuals as they struggled to make decisions that their lives depended upon. Others gave cynical accounts of bureaucratic power bases that brought great danger from fire.

Outraged bushfirefighting network members such as Val Jeffery, Peter Cannon, Noeline Franklin, Kurt Lance and Ralph Barraclough described their constant battle to bring change. They lobbied the media, held protest rallies and kept in close contact with other network members to share information and work cohesively towards their goal of better practice. After my blunder of mistakenly assuming Val was a woman, only a few women such as Noeline Franklin emerged as key network players, consistent with feminist historical and disaster theories that large scale emergencies are white male dominated fields. In this sharply divided social sphere, claims to knowledge were dangerously informed by considerations of power.

Senior state politicians' claims that hazard reductions are a scorched earth policy of environmental vandalism had no foundation in fact. Firefighting captains and deputies at Arrawonga considered about nine years to be an adequate time span between burns. Outside of Arrawonga, the outraged bushfirefighting network

thought between seven to 12 years acceptable. Somehow, state political leaders and senior bureaucrats interpreted records of more frequent Indigenous burning as this lobby's goal. Forgotten was the fact that Indigenous Australians burnt for many reasons besides hazard reductions. Foremost was the compelling need to eat. Clearing the bush of branches so that people could travel without being scratched was another consideration. As an explanation, Giddens's notion of reflexivity did not explain the diminution of the outraged network by the amplification of those proclaiming the white male icon of bushfirefighting bravery. His argument ignores the point in the interplay between agency and social location where the mirrors can be broken, or distorted to magnify or diminish.

As a springboard for thought, Giddens's model is useful, describing in the interplay between knowledge and society and the way both entities impact upon one another resulting in blurred boundaries. In this thesis, the sociological informant also became a sociological thinker. Similarly, other knowledge worlds such as psychology, history and economics were reflected in the ideas and behaviours of the social spheres examined here. At Arrawonga, the impacts of social theorists like Greer were comparatively invisible compared to Cessnock informants' accounts. Blyton's impact was comparable between both groups of women, highlighting the importance of childhood experience in shaping adult social systems. However, informants' accounts from Arrawonga resonated with the archival analysis of a white male icon and Arrawonga's brief patriarchal history. Their patriarchal attitudes formed a time warp back to Parsonian times with smatterings of influence from Marx in the unionist heritage. This unionism lost Marx's championing of women's emancipation by focusing on white male working class rights. Feminist theorists and my archival analysis showed much of history to be just such an elite white male filtering of instances in time to account for the past. This finding of feminism's late impact in Arrawonga is consistent with revisionist historians' argument that many knowledge-giving voices have little or no impact. While equality was variegated, other claims to knowledge achieved fetish-like status.

Analogous to Trobriand Island fetishes, claims to bushfire technology as knowledge were heavily interwoven with the social and political rather than the well evidenced (see Malinowski 1922, 1992). Part of the bushfire fetish was constant change. In my archival analysis and fieldwork, technological announcements of breakthroughs characteristically preceded ever-worsening fire seasons. New types of technology such as trucks, radios, satellite-linked weather maps, computerised fire maps and aircraft were proclaimed as ends to fire storms. The $millions spent on this technology and the lack of these claims' accuracy became lost as tired phrases describing white men battling cities ringed by fire reappeared fire season after fire season. There was blindness to firefighters' growing powerlessness against wildfires. A fetish for technological change, white male glorification and discursive clichés about battling overwhelming odds characterises modernity in the field of bush firefighting. These clichés appeared at all levels.

8.10 Different Types of Bravery

Brave stories of carrying on battling impossible odds were told by many of the Arrawonga men…battling the EPA, fire and poorly thought out orders from upper echelons. Cliff said he battled fire without sleep for days and developed PTSD as a result. At the highest level, Commissioner Koperberg confidently argued to the 2002 NSW Parliamentary inquiry and the press that inadequate hazard reductions did not underlie the problem of wildfires. He told one Warrimoo resident that the loss of homes was inevitable due to topography. "It's a weird country. You wonder what the hell we are doing here" (see Lewis 2002: 27). The commissioner and state parliamentarian Mr Richard Colless argued that ploughed paddocks can produce flames 1.5 metres high and that fire will burn through bush burnt the day before. Except for wild fires that are the direct result of inadequate hazard reductions, no evidence has come to light of ploughed land or burnt bush behaving this way. Paradoxically, misinformation such as the commissioner's has made the odds faced by volunteers impossible. Acknowledging the role of hazard reductions, the commissioner argued in 2004 that it is impossible to adequately hazard reduce NSW despite State Forests of NSW demonstrating the ease that this can be done by dropping incendiary devices from aircraft. Munford (1992) did not mention volunteers gaining media attention, but an unwinnable battle against bushfires commands prominence. Vounteers' battle against the creation of

impossible odds also adds a new dimension to Munford's (1992) finding that women were admired most amongst volunteers for patience and persistence in a hopeless situation. Munford's (1992) finding of the gendering of admiration was reversed; from the commissioner down, men rather than women talked of unwinnable battles. Of the 29 bushfirefighting women interviewed, 28 did not value fighting the unwinnable at all. Of the 88 men interviewed, 19 of the Arrawonga men gave dramatic accounts of such battles. Those talking triumphantly of the unwinnable fight against the bush were not part of the radical bushfirefighting network pushing for improved bushfire practices and did not describe finer, more scientific details of the failure to handle '94 (unlike radical firefighters such as Kurt Lance, Ralph Barraclough, and Penny Sutherland). Bushfirefighting rules and scientific knowledge were well understood by radical group members including the Cessnock brigades. They articulately described the changes that they wanted, when to ignore hierarchy orders and how to lobby for change. More confident of their ability to understand fire and how to change mitigation practices, they described being more in control of their circumstances.

Jenny from Arrawonga, was the only woman reporting odds that approached insurmountable when, with Glen, she talked about the difficulties the EPA posed for hazard reductions. Grappling with a lack of acceptance at Arrawonga due to her emancipated views, she still described moments of triumph and never described her situation as unwinnable. Her accounts of the changes karate wrought in her by practicing the warrior spirit of bushido and of repelling menacing thugs were victories. All of the other women's talk was of prevailing in difficult situations. Penny Sutherland, described bravery and intelligence after safely returning her crew and truck after many hours trapped in a firestorm without radio contact. Defying hierarchy orders, she was part of a backburn that saved a rural settlement. Cherie described saving the school at Arrawonga. She matter-of-factly described following procedure and proving herself in control of her situation. Daphne Jones too, only talked of her successes as a fire truck driver, driving fearlessly down a steep slope when the rest of the crew had jumped out. These women relished their exploits, hushing their voices at dramatic or infuriating moments. Deputy Captain Katie Cook similarly described the successes that she and her crew accomplished with some excitement. Katie said one Cessnock brigade had such a sexist captain that even if a woman forced her way in using

anti-discrimination legislation, he would make her time a misery. So, it was rational that women did not join. New recruits attracted by the 1993/4 fires' media coverage also tended to express sexist views, baulking at Katie's position of leadership. Missing from Arrawonga accounts, was an even more tantamount piece of evidence showing that the bushfire problem had a solution… Aboriginal knowledge had left the ground once trod by Awabakals. In this examination of competing black/white/male/female epistemologies, connections to the emergence of the bushfire problem begin over two centuries ago.

8.11 Firefighting Bravery's Epistemological Links

Over time, racist views have eliminated Indigenous knowledge of how once to eat, travel comfortably through the Australian bush and avoid incineration. Social planning concepts behind Captain Cook's proclamation of *Terra Nullius* saw Indigenous Australians' land management practices render them ineligible from consideration as landowners (see *Australian Oxford Paperback Dictionary* 1998: 857). From theorists such as Eysenck (1971) come views that people of colour are genetically predisposed to lower intelligence than whites. Burning was a vital and mundane task performed during favourable conditions. Also from psychology, there is no evidence to justify the social reproduction of millennia old assumptions of sex differences... the activity of males and passivity of females.

Even Freud questioned notions of the primordial nature of this division as too readily accepted (1927-31, 1971: 106). In the sociological world, Parsons's complementarity of the sexes became the model for an ideal society; a model of feminine passivity and male agency that he said was in complete agreement with the new Freudian based psychology (see Parsons 1949, 1964: 11, 89, 94, 299 & 305). In economics, women's worth as carers has been invisibilised and until recently, gender omitted from analysis (Ormerod 1994: 28-31). These notions are still reproducing, despite running contrary to the knowledge produced by feminists and Aboriginal activists. Giddens's depiction of a sociological knowledge spiral ignores the paradox of meanings of bravery as struggles between adversaries and in particular struggles between governors and the governed. There is a lot at stake for rulers who may lose an ability to rule that is based on acceptance of the myth of the primordial failings of those below. I extend Giddens's knowledge spiral with Bourdieu's concept of symbolic violence and hegemony (see 1977, 1991; 1970,

1990 & 1988). Even when knowledge reveals a social fact as a myth, considerable energy is needed to dissolve the boundaries of social spheres to let the "other" into rulers' jealously guarded spheres.

8.12 Gendered and Racialised Mythologies and Boundaries

The belief that white men cope with stress best presents a major obstacle to white women and Aborigines' full participation as citizens. Other than in the activity of carers, females have been characterised as less brave than males both within mainstream academic work and within popular notions of femininity. Indigenous Australians have endured two centuries of derogatory discourse disqualifying them for consideration as brave on an equal footing with white men. This is despite their long battle with racism and the large body of evidence presented here showing a mythical side to claims of bushfirefighting bravery because Indigenous fire stick farming once adequately controlled wildfires. Courage is a prerequisite for challenging the authority of white men and for enduring the crisis of domination. Dispelling the belief of these groups' faint heartedness with empirical evidence not only aims at pushing back boundaries in knowledge but at improving Aborigines' and white women's position in society as a whole.

Based on social facts, boundaries constrain. White women and Aborigines inhabit spheres permeated by myths claiming their lack of ability. These myths are barriers to recognising these social facts as fallacy. If realisation occurs, there are further obstacles as others are unwilling to acknowledge that the disadvantaged have the necessary prerequisites for courageous thought and action. The gulf between emancipatory voices and male dominated spheres guided by assumption has created an intellectual void. Against Williams's (1989) argument that a myth of superiority disadvantages those it diminishes and advantages those it glorifies, Shute (1995) argued that white men also suffer under delusions of their superiority. In this thesis, in wildfires the hardest hit were the most vulnerable… searing heat able to melt skin and char flesh and bone to ash did not discriminate between gender or skin colour. Members of white male dominated power bases associated with managing these catastrophes escaped these physical dangers to face accusations of ineptitude and indifference and calls for criminal investigation that still hang in limbo, frozen in legal wrangles. The tensions and conflicts over bravery in the field of bushfirefighting present another obstacle in reaching a

solution to the problem. As the outraged bushfire network struggles for self preservation and justice, conflicts mount over criminal and civil liability. In class actions and coronial and parliamentary inquiries, interpretations of identical facts have been intensely divided. That such a diversity of opinion can be reached about the same information marks a point beyond which governing decisions should not have passed.

However, Giddens (see 1992: 15-6) sees reflexivity as overflowing from the field of social research as a general characteristic of identities in modernity. This reflexivity is one of critical review of all that passes for knowledge and, awareness that at each of life's turns, there are many possibilities. This reflexivity he calls, "*the reflexive project of the self*: Self-identity is the reflexive ordering of self-narratives" (Giddens 1992: 224). But, as the evidence here attests, thought is not always so well behaved. Original, old or new thoughts are based upon the thinker's past knowledge as a social being or *habitus*. Furthermore, in this research focusing on myths of magnification and diminution, findings drawn from well-substantiated data can intermingle with social facts, error and behaviour cultivated over a lifetime. In this dynamic intermingling of complex and sometimes invisible factors, thinkers did not always consciously self-order, aware of and making choices at each stage. Within academic literature as well as this thesis's own data, interpretations of the same social phenomena have varied. The importance of inductive methodology's heightening of sensitivity to data has been shown with continuous delineation between the imaginary fact of reasoning, the social fact and struggles over who is the bravest and who knows how to mitigate bushfires. In this intricate exploration of ideas in bushfires and bravery, white men, white women, racists, Indigenous Australians, feminists and nonfeminists are differentiated because of the subject matter of their *habitus* and who they think is correct. Whether the researched or the researcher, courage, experience and knowledge have been vastly assorted and unique, but with linkages and patterns in social structure, discourse and practice. In this conflict ridden and complex social system, arbitrary rules and beliefs persist with dubious consequences.

8.13 A Dubious Category of Bravery: the Context of War, Nationalism, Acceptable Forms of Genocide, Murder, Rape and the Persistence of Preventable Wildfires

With freakish exceptions such as Joan of Arc, patterns connected to black/white/male/female struggles concretise in the recognitions of bravery. Until recently women were ineligible from inclusion in a warlike category of bravery. White men have been constructed as predominantly courageous in war. Also except for the freakish, children and the physically handicapped are predominantly ineligible. Courage in sport, also predominates as a white male realm, but now blacks are becoming more accepted because of the achievements of a number of Indigenous Australians and a large number of people of African descent. White women too are becoming increasingly recognised. The physically handicapped and teenagers are also gaining recognition. Courage in popular culture follows a very similar pattern: compared to white male iconic bravery, little is recorded about the Indigenous Australians' courage in battling the European invasion. White male's struggles and glorious escapades are a predominant theme ranging from the early stories of Henry Lawson (1987), through to James Bond, Superman, westerns, Humphrey Bogart, Star Wars and mainstream history. This phenomena is identified in this thesis as the hero myth. With rare exceptions such as mothers rescuing children and the early years of World War II, housewives, old ladies and schoolgirls are ineligible from consideration as courageous.

The last three centuries show that women can succeed in being brave and the last two that Indigenous Australians have endured vast hardship to bravely reassert their rights. These gendered and racialised, discourses and embodiments of bravery represent a struggle over who is allowed to be brave, who is said to be brave and the status and class of the brave. Struggles for emancipation from hegemony clash over white male claims to bravery. Hegemonic proclamations of bravery represent a discursive facade to hide captured social territory; a facade for inequalities and social injustices. Dictionary definitions also reproduce bravery's myths (see *Webster's Dictionary* 1966: 269; *The Oxford English Dictionary* 1989a: 497 & *The Macquarie Dictionary* 1997: 499, 264 & 2337). Bounded by these meanings, these claims to bravery are fortified like walls around captured land.

8.14 Contemporary Myths of Bravery/Violence

Currently, roller coaster ride themes typify media stories of bravery. Plots underpinned by superhuman bravery make stars and the industry's ruling elite enormous wealth and status. The notion of bravery is proving most lucrative (see Bourdieu 1998: 17). Violence, adrenaline and beautiful heroes and heroines glamorise and normalise white male-dominated spheres of power. Even in the purportedly more factual news, little information is given to audiences about braving hegemony. Rather than the constant barrage of rescues by mythical heroes, audiences need to be shown how to rescue themselves by being better able to understand large-scale events such as economic downturns, unemployment, racism and sexism. The media leaves these spheres to a ruling elite to comprehend and interpret for the public, bushfirefighting being one such area. Instead of high-level information for mass audiences, there is an emphasis on valorised activities, which are carefully selected and vetted using opinion polls and audience ratings (see Bourdieu 1998: 26-27 & 740).

Using the principles of market forces, this editing of subject matter locates media audiences as a market for viewing rescue, be it in fictitious stories of superhuman bravery or as Bourdieu (1998) points out, in the deluge of global disasters that are presented as news.

> So, especially as a result of the particular form that competition takes there, and through the routines and habits of thought it imposes, the journalistic field represents the world in terms of a philosophy that sees history as an absurd series of disasters which can be neither understood nor influenced. Journalism shows us a world full of ethnic wars, racist hatred, violence and crime - a world full of incomprehensible and unsettling dangers from which we must withdraw for our own protection... (Bourdieu 1998: 8).

With so much disaster to be viewed, bushfires' growing risks were presented initially to the public as incomprehensible. Informing the public of relevant information on how to solve the problem preoccupied my network of outraged landholders and bushfirefighters. While no one can gainsay theirs or other white men such as Cliff Herbert's extraordinary courage, Captain Penny Sutherland's excellence as a leader and firefighter attests to women's potential. But women like

Penny are rare in paid and volunteer disaster work. Additional to the pressures of disaster, such women battle prejudice to succeed. My participant observation found Indigenous Australians even more dislocated from contributing equally in solving the bushfire problem. Despite being 2.8% of the Hunter's population, Indigenous Australians were not evident in bushfire services in my fieldwork. In view of this evidence, the media allows white women and people of colour a hegemonic type of bravery.

Messages of equality are mixed elsewhere in the media with messages implying that white men are entitled to lead, earn more and make governing decisions. In the media's many gendered interplays between symbolic and embodied power, the gap between white male/female and black/white is not interpreted as a serious problem (see Rothman, Powers & Rothman 1993). While it could be argued that portraying fictitious equality may promote real equality, the growing gaps between white women and men and between black and white in Australia show that this is not the case. A disproportionately large section of the female population clusters in the lower income ranges (see Castles 1993: 170-1). Most Australian women cannot support themselves financially and the level of women on welfare is unprecedented. Women lucky enough to work have total earnings that are about 66% of men's. Two thirds of woman-headed sole parent families are on welfare. There are more women over 60 living in poverty than ever before (Summers 2004: 1-2). For Indigenous Australians it is far worse. Aboriginal men's life expectancy of 59 years and women's of 64 contrast to the white figures of 75 for men and 81 for women in 1994. Indigenous Australians' shorter lives are due to the health risk factors of long-term unemployment, alcoholism, racism, poorer housing and dispossession from their traditional lands and culture (Southern NSW Health Service 2004).

With equality rarely an issue, in shows presented as either fictitious or factual, white men appear far more than white women and blacks and, white men's roles are those of dominant decision makers (see Rothman, Powers & Rothman 1993; Luke 1998: 12 & Russell 1984: 119-120). People of colour appear the least. While there is the new danger white woman, the majority of media white women hold more traditional feminine roles as the domestic support as in the long-running

bread advertisement proclaiming "Good on you Mum, Tip Top's the one". Investigative journalists, newsreaders, "danger women" and other white women in powerful roles associated with disasters are broadcast far more than they occur away from video cameras and sound recorders in real life spheres of disaster such as the emergency services, the police and the military. The media portrays such women's lives as gender utopias where they share unquestioned equality with men.

There is currently a proliferation of top-rating shows about the traditionally white male spheres of law enforcement and the military where X-Files Agent Scully, Xena: Warrior Princess and their white female cohorts flourish. Their associates unshakably trust in these women's intelligence and indestructibility. In productions such as Water Rats and Mission Impossible, inequality and tension between genders and skin colours is rarely an issue. Together with their partners (with whom they have close bonds of understanding), white women and people of colour hurtle through plots facing enormous danger and the conquest of evil (stresses that in "real life" the human majority find too harrowing to bear long-term). They put across their point of view equally with white men. Males who make unwelcome advances generally take the hint. Sexual harassment and racial discrimination are rare and resolved with the culprit's castigation.

Unlike the multitude of scenarios of white men and women and people of colour on equal footing, achieving justice at every turn, this research and other empirical studies show that occupational spheres dealing with disaster can be fraught with conflicts over equality (see Williams 1989 & Sutton 1995). In the media, emancipatory struggles are rarely discussed, and, when they are, are mostly portrayed in an unflattering light. Greer interviewed by Jana Wendt, was highlighted as a zany recluse who was difficult to get along with (see Wendt 1998). This would be a balanced representation if more media time dealt with the extent of women's inequality and on topics such as Greer's impact on the status of women. Greer's (1989) "Daddy, We Hardly Knew You" is one rare example of a critical treatment of courage as a notion of white male hegemony.

The impact of taking claims to bravery at face value has been catastrophic with no rescue from this myth in sight. If no longer told by a white male elite claiming bravery, over two millennia of mainstream history would change (I refer to most mainstream historical records with their basis in war strategies). Plunder would remain in the hands of its original owners. Indigenous people would still hold lost lands. A multitude would have escaped butchery, rape and/or trauma. The incidence of PTSD would decline. The Australian bush would have escaped the incinerating effects of wildfires. Hundreds of millions of Australian firefighting dollars and human and countless animal lives would have been saved. Australian homes with their treasured possessions would have escaped bushfire. Media outlets' subject matter would deflate. In the millennia of games of life, the fallacies surrounding femininity and skin colour have entitled elite white men to decide life's agenda, have the first and best pickings, monopolise conversation with tales of their valour and leave the cleaning up. In contemporary discourses around bushfirefighting, the picture would be altogether different in egalitarian organisations utilising all knowledge to solve the problem. Instead, a discourse of an impossible white male battle against the evils lurking in the bush has emerged from the data. As with any war, the illusion of a need for white heroes to fight has had a huge negative impact socially, economically and environmentally. Despite the cost, such iconic bravery has proved a vast asset in the fortunes of white men. The drill for activities like firefighting and body contact sports has been known for millennia to increase strength, skill, self-possession, stamina, warrior-like self identities and social networks bonded by belief in primordial white male bravery (see Plato circa 370 BC, 1924: 89).

REFERENCES

AAP (2003a) Fireman gets bail on arson counts in *Newcastle Herald* Central Coast edn February 8 p6.

AAP (2003b) Arson counts in *Newcastle Herald* January 31 p5.

Abbott, Jenny (2004) CSIRO aerial bushfire researcher personal communication October.

Abbott, Jenny (2006) personal communication, February.

ABC News Online (2004) Fire Captain challenges CFA over charges threat May 28 1:18pm http://www.abc.net.au.

Alcoholics Anonymous (1937, 2000) *The Big Book* 7th edn Australia: Griffin Press.

Alic, Margaret (1986) Hypatia's Heritage A History of Women in Alic, Margaret *Science from Antiquity to the Nineteenth Century* Great Britain: The Women's Press.

Allen, IM (1986) Posttraumatic stress disorder among black Vietnam veterans *Hospital and Community* 37 pp 55-61.

Alston, Margaret (1995a) *Women on the Land: The Hidden Heart of Rural Australia* 1st edn Kensington: University of NSW Press.

Alston, Margaret, (1995b) *80 HOURS A WEEK: 'PART-TIME WORK' FOR WOMEN ON THE LAND* 5th women & labour conference 1995, Macquarie University, Sydney NSW.

Alston, Margaret (1998) Farm women and their work: why is it not recognized? *Journal of The Australian Sociological Association* Vol 34 no 1 March pp 23-34.

Anderson, Karen, M & Geronio, Manuel (1994) Gender Differences in reported stress response to the Loma Prieta earthquake *Sex-Roles* May Vol 30 (9-10) pp 725-733.

Andrews, Bernice, Brewin, Chris R & Rose, Suzanne (2003) Gender, Social Support, and PTSD in Victims of Violent Crime *Journal of Traumatic Stress* Vol 16 (4) August pp 421-42.

Attiwill, Peter (2006) personal communication February.

Australian Bureau of Statistics (1996) *Average Weekly Earnings States and Australia* ABS Catalogue No 6302.0 Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (2001) *Australia in Profile a Regional Analysis 2001* ABS Catalogue No 2032.0 Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (2002) *National Aboriginal and Torres Strait Islander Social Survey* 2002 ABS Catalogue No 4714.0 Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (2004) *Average Weekly Earnings States and Australia* ABS Catalogue No 6302.0 Canberra: Australian Bureau of Statistics.

Babbie, Earl (1999) *The Practice of Social Research* 5th edn Belmont California: Wadsworth Publishing Co.

Bacchi, Carol Lee (1990) *Same Difference: Feminism and Sexual Difference* 1st edn Sydney: Allen & Unwin.

Bachelard, Gaston (1991) Le rationalisme appliqué in Bourdieu, Pierre, Chamboredon, Jean-Claude & Passeron, Jean-Claude (1968, 1991) *The Craft of Sociology Epistemological Preliminaries* 1st Eng trans Nice, Richard Germany: Walter de Gruyter pp 87-9.

Baldock, Cora (1990) *Volunteers in Welfare* 1st edn Sydney: Allen & Unwin.

Barraclough, Ralph (2004) Country Fire Authority Captain personal communications January-July.

Baum A, Gatchel, RJ & Schaeffer, M (1983) Emotional, Psychological Effects of Chronic Stress at Three Mile Island *Journal of Consulting and Clinical Psychology* 51: 565-572.

Beggs, John, J, Haines, Valerie, A & Hurlbert, Jeanne, S (1996) The Effects of Personal Network and Local Community Contexts on the Receipt of Formal Aid during Disaster Recovery *International Journal of Mass Emergencies and Disaster* March, vol 14, No 1 pp 57-78.

Benhabib, Seyla (1986) "The Generalized Other and the Concrete Other the Kohlberg-Gilligan Controversy and Feminist Theory in Benhabib, Seyla and Cornell, Drucilla (eds) *Feminism as Critique Essays on the Politics of Gender in late-Capitalist Societies* 1st edn Great Britain: Polity Press.

Bisson, JI; Jenkins PL; Alexander, J & Bannister, C (1997) Randomised controlled trial of psychological debriefing for victims of acute burn trauma *British Journal of Psychiatry* 171 pp 78-81.

Bittman, Michael (1991) *Juggling Time How Australian Families Use Time* A report on the secondary analysis of the 1987 pilot survey of time use, prepared for the Office of the Status of Women, Department of the Prime Minister and Cabinet, May.

Bomford, Janette (1993) *That Dangerous and Persuasive Woman: Vida Goldstein* 1st edn Carlton Victoria: Melbourne University Press.

Bonyhady, Tim (1987) *The Colonial Image Australian Painting 1800-1880* 1st edn Melbourne: Australian National Gallery Ellsyd Press.

Bourdieu, Pierre, Chamboredon, Jean-Claude & Passeron, Jean-Claude (1968, 1991) *The Craft of Sociology Epistemological Preliminaries* 1st Eng trans Nice, Richard Germany: Walter de Gruyter.

Bourdieu, Pierre, & Passeron, Jean Claude (1970: 1990) *Reproduction in Education Society and Culture* London: Sage Paperback.

Bourdieu, Pierre (1977, 1991) *Language and Symbolic Power* ed Johnson, John B trans Raymond, Gino and Adamson, Mathew 6th edn Great Britain: Polity Press.

Bourdieu, Pierre (1979) Algeria 1960 *The disenchantment of the world The sense of honour The Kabyle house or the world reversed* 1st Eng trans Nice, Richard Cambridge: Cambridge University Press.

Bourdieu, Pierre (1985) The Genesis of the Concepts of Habitus and of Field translator Newman, CH in *Sociocriticism Theories of Perspectives II* No. 2 pp 11-24.

Bourdieu, Pierre (1988) *Homo academicus* trans Collier, Peter 2nd edn Great Britain: Polity Press.

Bourdieu, Pierre (1990) *In Other Words Essays Towards a Reflexive Sociology* 2nd edn Great Britain: Polity Press.

Bourdieu, Pierre (1993) *Sociology in Question* 1st Eng trans Nice, Richard Wiltshire Great Britain: Sage Publication Ltd.

Bourdieu, Pierre (1998) *ON TELEVISION AND JOURNALISM* 2nd Eng trans Ferguson, Parkhurst, Priscilla United States of America: Pluto Press.

Bradstock, Margaret & Wakeling, Louise (1991) *Rattling the Orthodoxies A Life Of Ada Cambridge* Ringwood 1st edn Victoria: Penguin Books.

Breslau, N (2001) The Epidemiology of posttraumatic stress disorder: what is the extent of the problem *Journal of Clinical Psychiatry* 62 (Suppl 17) pp 16-22.

Briere, J (1996) *Therapy for adults molested as children: Beyond survival* 1st edn New York: Springer.

Britton, Neville (1997) *Investigation and Report on the Loss of the CFA Glen Park Tanker on 21 January 1997* CFA Region 15.

Bromet, E; Parkinson, D; Schulberg, HC, Dunn, L; Shore, James, H; Tatum, Ellie L & Wollmer, William, M (1986) The Mount St Helen's Stress Response Syndrome

Disaster Stress Studies: New Methods and Findings Shore, James, H ed 1st edn Washington: American Psychiatric Press pp 77-98.

Brownmiller, Susan (1976) *Against Our Will Men, Women and Rape... a conscious process of intimidation by which all men keep all women in a state of fear* 2nd edn Great Britain: Penguin Books.

Brownmiller, Susan (1985) *Femininity* 2nd edn New York: Paladin Grafton Books.

Bryant, Richard, A & Harvey, Allison, G (2003) Gender differences in the relationship between acute stress disorder and posttrauatic stress disorder following motor vehicle accidents *Australian & New Zealand Journal of Psychiatry* vol 37(2) April 2003 pp226-229.

Burgess, Robert R (1989) *In the Field: An Introduction to Field Research* 5th edn London; New York: Routledge.

Bush Fire Council of NSW (1986a) *HAZARD REDUCTION BUSH FIRE PERSONNEL TRAINING MODULE BP/6* REVISED MARCH 86 Australia: Bush Fire Council of NSW.

Bush Fire Council of NSW (1986b) *BUSH FIRE PERSONNEL TRAINING, FIRE BEHAVIOUR MODULE BP/2* REVISED MARCH 86 Australia: Bush Fire Council of NSW.

Bush Fire Council of NSW (1986) *BUSH FIRE PERSONNEL TRAINING, BUSH FIRE SUPPRESSION MODULE BP/4 REVISED* MARCH 86, Australia: Bush Fire Council of NSW.

Byram, GM (1954) Atmospheric Conditions Related to Blowup Fires *Station Paper 35 South East Forestry Experimental Station* Asheville NC USDA.

Cambridge, Ada (1904, 1989*) Sisters* ed Cato, Nancy Australia: Penguin Books.

Cambridge, Ada (1988) *A Woman's Friendship* ed Morrison, Elizabeth Kensington NSW: New South Wales University Press.

Cannon, Peter (2003-5) RFS Captain, Dubbo personal communications.

Casagrande, Carla (1994) The Protected Woman in Klapisch-Zuber, Christiane ed *A HISTORY OF WOMEN IN THE WEST II Silences of the Middle Ages* 3rd edn United States of America: Belknap Press of Harvard University Press pp 70-104.

Castles, Ian (1993) Women in Australia *ABS Catalogue No 4113.0* Canberra: Australian Bureau of Statistics.

Cheney, Phil (2003-6) Forestry and Forestry Products CSIRO Yarralumla, personal communications, November 2003, January 2004 & February 2006 from observations from CSIRO bushfire research including Project Vesta.

Chowdhury, Mushtaque, R; Bhuiya, Abbas, U; Choudhury, Yusuf and Sen, Rita (1993) *Bangladesh Cyclone of 1991: Why So Many People Died* from BRAC, Ayesha Abed Library, 66 Mokhali, Dhaka 1212, Bangladesh.

Cixous, Hélène (1978) in *Women and Literature in France* Marks, E trans A. Liddle. Signs: Journal of Women in Culture and Society 3: 4 (Summer): 841-52.

Cixous, Hélène & Clément, Catherine (1975, 1986) *The Newly Born Woman* trans Wing, Betsy Theory and History of Literature Volume 24 Great Britain: Manchester University Press.

Clouten, Keith H (1967) *Reid's Mistake The Story of Lake Macquarie from its discovery until 1890* 1st edn Sydney: Halstead Press.

Cockburn, Cynthia (1984) *Brothers Male Domination and Technological Change* 2nd edn Great Britain: Pluto Press.

Collins, Peter (2002) Member for Willoughby, Parliament of New South Wales *Extract from the NSW Legislative Assembly Hansard of 17/09/2002* - Corrected Copy LA Hansard Extracts - 52nd Parliament of NSW www.parliament.nsw.gov.au.

Connell R.W. (1987) *Gender and Power in Society, the Person and Sexual Politics* 1st edn North Sydney: Allen & Unwin.

Connell, R.W. (1995) *Masculinities How masculinities are made and how they differ; why gender change occurs and how men handle it; how social science understands masculinity; how we can pursue social justice in a gendered world* 1st edn Great Britain: Allen & Unwin.

Cox, Helen (2000) Women in Bushfire Territory in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp133-142.

Creamer, M, Burgess, PM & McFarlane, AC (2001) Posttraumatic stress disorder: findings from the Australian National Survey of Mental Health and Well-Being *Psychological Medicine* 31 (7): 1237-1247.

CSIRO (2003) submission to *A Nation Charred: Inquiry into the Recent Australian Bushfires* House of Representatives Select Committee on the Recent Australian Bushfires Canberra: Parliament of Australia.

Cunningham, Chris (2003) in Western Australian Forest Alliance and the Conservation Council of WA submission to *A Nation Charred: Inquiry into the Recent Australian Bushfires October 2003* House of Representatives Select Committee on the Recent Australian Bushfires Canberra: Parliament of Australia p 2.

Dalarun, Jaques (1994) The Clerical Gaze in Klapisch-Zuber, Christiane ed *A HISTORY OF WOMEN IN THE WEST II Silences of the Middle Ages* 3rd edn United States of America: Belknap Press of Harvard University Press pp 15-42.

Daly, Mary (1978) *Gyn/Ecology: The Metaethics of Radical Feminism* Boston: Bacon Press.

Davies, Bronwyn (1993) *Shards of Glass children reading and writing beyond gendered identities* 1st edn Sydney: Allen & Unwin.

Davies, J & Frawley, M (1994) *Treating the adult survivor of childhood sexual abuse* 1st edn New York: Basic books.

Deahl, Martin; Srinivasan, Michael; Jones, Norman; Thomans, Janice; Neblett, Carl & Jolly, Allan (2000) Preventing psychological trauma in soldiers. The role of operational stress training and psychological debriefing *British Journal of Medical Psychology* 73 Part I pp 77-85.

de Lepervanche, Marie (1979) Breeders for Australia. A National Identity for Women? *Australian Journal of Social Issues* Vol 24 no 3 pp 79-103.

Delprat, Mercia (1978) Woman wins firefight in *Newcastle Morning Herald and Miners' Advocate* April 8 p 5.

Dempsey, Ken (1990) *Smalltown: A Study of Social Inequality, Cohesion and Belonging* 1st edn Melbourne: Oxford University Press.

Dempsey, Ken (1992) *A Man's town: Inequality Between Women and Men in Rural Australia* 1st edn Melbourne: Oxford University Press.

Department of Bush Fire Services (2000) *Annual Report 1996-97* Rosehill NSW: Department of Bush Fire Services.

Devine, Miranda (2002) burn-off bombshell for the bio-brigade in *Sun-Herald* May 12 p15.

De Vaus, David A (1991) *Surveys in Social Research* 1st edn London: Allen & Unwin.

Doherty, Megan (2003) Fire out of control before it hit ACT: expert in *The Canberra Times* October 11 p1.

Doherty, Megan (2003) Counselling lifeline for stressed victims (2003b) in *The Canberra Times* September 4 p1.

Doyle, Sir Arthur, Conan (1927, 1980) *The Case-book of Sherlock Holmes The Sherlock Holmes Collected Edition With an Introduction by CP Snow* Great Britain: John Murray Ltd.

Duby, Georges & Perrot, Michelle (1994) Writing the History of Women in Schmitt Pantel, P (ed) Goldhammer, A trans *A HISTORY OF WOMEN IN THE WEST I. From Ancient Goddesses to Christian Saints* pp ix-xxi.

Duby, Georges (1994) Affidavits and Confessions in Klapisch-Zuber, Christiane ed *A HISTORY OF WOMEN IN THE WEST II. Silences of the Middle Ages* 3rd edn United States of America: Belknap Press of Harvard University Press pp 483-491.

Dynes, Russell, R, De Marchi, B & Pelanda, C. (1987) *Sociology of Disasters: contribution of sociology to disaster research* 1st edn Milano: Franco Angell.

Enarson, Elaine (1984) *Woods-Working Women Sexual Integration in the U.S. State Forests* 1st edn United States of America: The University of Alabama Press.

Enarson, Elaine & Morrow, Betty Hearn (2000a) Why Gender? Why Women? An Introduction to Women and Disaster in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp 1-8.

Enarson, Elaine & Morrow, Betty Hearn (2000b) Women Will Rebuild Miami: A Case Study of Feminist Response to Disaster in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp185-99.

Eyland, Simon (1995) *NSW Inmate Census 1995* NSW Department of Corrective Services.

Eysenck, HJ (1971) *Race, Intelligence and Education* 1st edn Bath, England: Sun Books.

Faludi, Susan (1992) *Backlash the Undeclared War Against Women* 2nd edn Great Britain: Vintage.

Feigenbaum, Mitchell (1978) Quantitative Universals for a Class of Nonlinear Transformations *Journal of Statistical Physics* 19 pp 25-52.

Finlay, C (1992) *Floods, They're a Damned Nuisance: Women's Experiences During Floodtime and Meanings for Disaster* honours thesis for the Department of Psychology and Sociology James Cook University of North Queensland.

Fitzsimons, Bernard (1973) ed *Heraldry & Regalia of War* 2nd edn Sydney: Ure Smith.

Flannery, Timothy, Fridtjof (1994) *The Future Eaters An ecological history of the Australasian lands and people* 1st edn Adelaide: REED BOOKs.

Flood, Josephine (1985) *Archaeology of the Dreamtime* 1st edn Sydney & London: Allen & Unwin.

Flower, Cedric (1975) *THE ATNIPODES OBSERVED Prints and Print Makers of Australia 1788-1850* 1st edn Hong Kong: Macmillan.

Flynn, James; Slovic, Paul & Mertz, CK (1994) Gender, Race and Perception of Environmental Health Risks *Risk Analysis* 14, 6, December, pp 1101-1108.

Fonow, Mary Margaret & Cook, Judith A. (1990) Knowledge and Women's Interests: Issues of Epistemology and Methodology in Nielsen, JM (ed) *Feminist Research Methods: Exemplary Readings in the Social Sciences* 1st edn Boulder Colorado: Westview Press pp 69-93.

Fordham, Maureen & Ketteridge, Anne-Michelle (2000) "Men Must Work and Women Must Weep": Examining Gender Stereotypes in Disasters in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp 92-94.

Fothergill, Alice (2000) The Neglect of Gender in Disaster Work: an Overview of the Literature in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp 11-25.

Fraisse, Geneviève & Perrot, Michelle (1995) Orders and Liberties trans Goldhammer, Arthur in *A HISTORY OF WOMEN IV. Emerging Feminism from Revolution to World War* 3rd edn United States of America: The Belknap Press of Harvard University Press pp 1-13.

Frazer, Sir James, George (1922, 1992) Preface in *The Argonauts of the Western Pacific an Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea* 1st edn London: Routledge & Kegan Paul pp vii-xiv.

Freedman, Sarah, A; Gluck, Natali; Rivka, Tuval-Mashiach; Brandes, Dalia; Peri, Tuvia & Shalev, Arieh, Y (2002) Gender Differences in response to traumatic events: A prospective study *Journal of Traumatic Stress* Vol 15, 5, October pp 407-413.

Friedlander, Paul (1957, 1964) *Plato the Two Dialogues First Period* vol two trans from German by Meyerhoff, Hans United States of America: Routledge & Kegan Paul.

Friedman, Mathew, J (1998) THE MATSUNAGA VIETNAM VETERANS PROJECT *PTSD RESEARCH QUARTERLY* Fall Vol 9, Number 4 pp 7-8.

Freud, Sigmund (1917-19, 1971) An Infantile Neurosis and Other Works trans from the German Strachey, James in *The Standard Edition of the Complete Psychological Works of Sigmund Freud* Vol xviii 4th edn Great Britain: The Hogarth Press and the Institute of Psycho-Analysis.

Freud, Sigmund (1927-31, 1971) The Future of an Illusion Civilization and Its Discontents and Other Works in *The Standard Edition of the Complete Psychological Works of Sigmund Freud* Vol xxi 4th edn Great Britain: The Hogarth Press and the Institute of Psycho-Analysis.

Frugoni, Chiara (1994) The Imagined Woman in *A HISTORY OF WOMEN IN THE WEST II. Silences of the Middle Ages* Klapisch-Zuber, Christiane ed 3rd edn United States of America: Belknap Press of Harvard University Press pp 336-422.

Gartland, Kerry (1995) The Changing Role of Women in Emergency Management A Red Cross Perspective *The Australian Journal of Emergency Management* Vol 10 No 3 Spring pp 3-6.

Garton, Stephen (1995) Return home: War, masculinity and repatriation in Damousi, Joy & Lake Marilyn *Gender and War Australians at war in the twentieth century* 1st edn pp 191-204.

Gasson, R (1992) 'Farmers' Wives: Their Contribution to the Farm Business *Journal of Agricultural Economics* 43(1) January pp 74-87.

Gavronidou, Maria & Rosner, Rita (2003) The weaker sex? Gender and post-traumatic stress disorder *Depression & Anxiety* Vol 17(3) pp 130-9.

Gell, PA & Stuart, IM (1989) *Human settlement history and environmental impact in the Delegate River catchment, East Gippsland, Victoria* Melbourne: Monash Publications in geography no 36.

Giddens, Anthony (1976) *New Rules of Sociological Method: A Positive Critique of Interpretative Sociologies* 1st edn Great Britain: Basic books, Inc., Publishers.

Giddens, Anthony (1982) *Sociology: A Brief But Critical Introduction* 1st edn London: Macmillan.

Giddens, Anthony (1992) *The Consequences of Modernity* 3rd edn Cornwell Great Britain: Polity Press.

Glaser, Barney G & Strauss, Anselm, L (1970) Theoretical Sampling *in Sociological Methods A Sourcebook*, Denzin, Norman, K ed 1st edn United States of America: Aldine Publishing Company.

Glaser, Barney, G & Strauss, Anselm, L (1967) *The Discovery of Grounded Theory* 1st edn Chicago: Aldine Publishing Company.

Gleick, James (1989) *Chaos Making a New Science* 3rd edn England: Cardinal.

Goldthorpe, JH, Lockwood, D; Bechhofer, F & Platt, J (1969) *The Affluent Worker* vol 2 Great Britain: Cambridge University Press.

Gould, Jim (2004) CSIRO bushfire scientist personal communication June.

Graham, HE (1955) Fire Whirlwinds *Bulletin of the American Meteorological Society* 36-3 pp99-103.

Green, Bonnie, L; Grace, Korol, Mindy; Grace, Mary, C; Vary, Marshall, G; Leonard, Anthony, C; Gleser, Goldine C & Smitson-Cohen, Sheila (1991) Children and Disaster: Age, Gender, and Parental Effects on PTSD *Symptoms Journal of American Child Adolescent Psychiatry* 30: 6 November pp 945-951.

Green, Bonnie, L (1990) Defining Trauma: Terminology and Generic Stressor Dimensions *Journal of Applied Social Psychology* 20 pp 1632-1642.

Green, Bonnie, L; Grace, Mary, C; Korol, Mindy; Vary, Marshall, G; Kramer, Teresa, L; Gleser, Goldine C & Leonard, Anthony, C (1994) Children of disaster in the Second Decade: A 17 Year follow-up of Buffalo Creek survivors *Journal of American Academic Child Adolescent Psychiatry* 33: 1 January pp 71-79.

Greer, Germaine (1970) *The Female Eunuch* 1st edn New York: McGraw-Hill.

Greer, Germaine (1989) *Daddy We Hardly Knew You* 1st edn Great Britain: Hamish Hamilton.

Griggs, Tim (1994) *Local HERO* 1st edn Adelaide: Lewis Lawman Publishing Company.

Grimshaw, Patricia, Lake, Marilyn, McGrath, Ann & Quartly, Marian (1994) *Creating a Nation* 1st edn Melbourne: McPhee Gribble.

Hallam, Sylvia, J (1975) *"Fire & Hearth"* Canberra: Australian Institute of Aboriginal Studies.

Hallam, Sylvia, J (2002) PEOPLED LANDSCAPES IN SOUTHWESTERN AUSTRALIA IN THE EARLY 1800S:- ABORIGINAL BURNING OFF in the light of Western Australian historical documents. Talk to the Royal Western Australian Historical Society 20 November.

Hawthorne, G & Osborne, R (2005) Population norms and meaningful differences for the Assessment of Quality of Life (AqoL) measure *Australian and New Zealand Jurnal of Public Health* 29(2) pp136-142.

Hickman, J & Tarrant, M (1986) *Australian Bushfires and their Real Cost* Fire Science '86 Australian National Biennial Conference 21-24 October Perth Institution of Fire Engineers.

Howie, RN Supreme Court Judge & Johnson, PA Supreme Court Barrister (2002) Butterworths Annotated Acts Annotated Criminal Legislation NSW 1st edn Hong Kong: Butterworths.

Information Technology and Services Branch NSW Department of Juvenile Justice (1994/95) *Annual Children's Court Statistics Criminal Matters*.

Johnson, Mary (1980) Durham Old Wine in New Bottles: The Institutional Changes for Women of the People During the French Revolution in Berkin, Carol, R and Lovett, Clara, M *Women, War and Revolution* 1st edn United States: Holmes & Meier Publishers, Inc pp 107-143.

Johnstone, Graeme (2002) *Report of the Investigation and Inquests into a Wildfire and the Deaths of Five Firefighters at Linton on 2 December 1998* State Coroner's Office, Victoria.

JOINT SELECT COMMITTEE ON BUSHFIRES (2002) *REPORT ON THE INQUIRY INTO THE 2001/2 BUSHFIRES Together with the Minutes of Proceedings* June Chair: John Price Sydney: Parliament NSW Legislative Assembly.

Kaplan, A (1964) *The Conduct of Inquiry: Methodology for Behavioural Science* 1st edn San Francisco: Chandler.

Keane, Terence M (1995) The Role of Exposure Therapy in the Psychological Treatment of PTSD *Clinical Quarterly* Fall, Vol 5 No 4 pp 3-6.

Kelett, Frank 1967 Fire! Care Plea in the Bush in *Newcastle Morning Herald and Miners' Advocate* October 27 p 2.

Kellehear, Allan (1993) *Health Research in Practice: political, ethical and methodological issues* 1st edn London; Melbourne: Chapman & Hall.

Kenardy, Justin, A and Carr, Vaughan (1996) Imbalance in the Debriefing Debate: What we don't know far outweighs what we do *The BULLETIN of the Australian Psychological Society* February pp 4-6.

Kentsmith, David, K (1986) *Principles of Battlefield Psychiatry Military Medicine* February Vol 151 (2) PP 89-96.

Kessler RC; Sonnega A; Bromet E; Hughes M & Nelson CB (1995) Posttraunatic Stress disorder in the National Commorbidity survey *Archives of General Psychiatry* 52: 1048-1060.

King, AR (1964) Characteristics of a Fire Induced Tornado *Australian Meteorological Magazine* 44 pp 1-9.

Kirschenbaum, Alan (1996) Residential Ambiguity and Relocation Decisions: Population and Areas at Risk *International Journal of Mass Emergencies and Disasters* March vol 14, no 1 pp 79-96.

Kohen, James, L (1995) *Aboriginal Environmental Impacts* 1st edn Marrickville: UNSW Press.

Kohen, James, L (1999) personal communication October 1999.

Koperberg, Phil (1994) Amid the fires we found valour and a precious sense of unity in *A PICTORIAL HISTORY OF THE NSW FIRES OF '94 FIRE AND COURAGE The Daily Telegraph Mirror* p2.

Kristeva, Julia (1978) Women and Literature in France, Marks, E trans Liddle, Anne *Signs: Journal of Women in Culture and Society* (Summer) pp 841-864.

Kulka, RA; Schlenger, WE; Fairbank, JA; Hough, RL; Jordan, BK; Marmar, CR & Weiss, DS (1990) *Trauma and the Vietnam War Generation* 1st edn New York: Brunner/Mazel.

LaFree, Gary, D; Reskin, Barbara, F & Visher, Christy, A (1985) Jurors' Responses to Victims' Behaviour and Legal Issues in Sexual Assault Trials *Social Problems* 32 April pp 14-21.

Lake, Marilyn (1995) Female desires: The meaning of World War II in Damousi, Joy & Lake, Marilyn *Gender and War Australians at war in the twentieth century* 1st edn pp 60-80.

Lance, Kurt AM (2002-6) Retired RFS Deputy Captain East Kurrajong Personal communications.

Lawson, Henry (1987) *Collected Stories of Henry Lawson* Ringwood Victoria: Viking O'Neil.

Lawson, Louisa (1888-1895) ed, *The Dawn* Vol 1, No. 1 (May 1888) to Vol 8 No 1 (May 1895) Sydney: John G Christian, Mitchell Library.

Lawson, Olive (1990) *The First Voice of Australian Feminism Excerpts from Louisa Lawson's The Dawn 1888-1895* 1st edn Singapore: Simon & Schuster.

Leavitt, Jacqueline (1992) Women Under Fire: Public Housing Activism in Los Angeles *Frontiers* Vol. XIII, No 2 pp 109-130.

Lees, Kirsten (1995) *Votes for Women The Australian Story* 1st edn Singapore: Allen & Unwin.

Lewis, Daniel (2002) fighting fire with fire in *The Sydney Morning Herald* June 8-9 pp 8 & 27.

Lloyd, Genevieve (1984) *The Man of Reason "Male" and "Female" in Western Philosophy* 1st edn Great Britain: Methuen & Co. Ltd.

Lorenz, Edward (1979) On the Prevalence of Aperiodicity in Simple Systems in Mgrmela & Marsden, J eds in *Global Analysis* 1st edn New York: Springer-Verlag.

Luke, Carmen (1998) *TV and your child Australia* 2nd edn Sydney: Angus & Robertson.

Luke, RH & McArthur, AG (1978, 1986) *Bushfires in Australia* 2nd edn Canberra: Australian Government Printing Service.

McCarthy, Greg; Tolhurst, Kevin; Bell, Tina; diStefano, Julian & York, Alan (2004) *Major Bushfires in Victoria* Forest Ecology – Fire Research Forest Science Centre (NRE/Melbourne University) http://www.dse.vic.gov.au.dse.nrenfoe.

Machiavelli, Niccolo, (1513, 1984) The Prince trans Marriott, W K in *Machiavelli Hobbes* in Vol 23 Great Books of the Western World, Hutchins, Robert, Maynard ed USA: Encyclopaedia Britannica, Inc pp xi-37.

Malinowski, Bronislaw (1922, 1992) *The Argonauts of the Western Pacific an Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea* 1st edn London: Routledge & Kegan Paul.

Mandelbrot, Benoit (1977) *The Fractal Geometry of Nature* 1st edn New York: Freeman.

Margaret, Alic (1986) *Hypatia's Heritage A History of Women in Science from Antiquity to the Nineteenth Century* Great Britain: The Women's Press.

Marx, Karl & Engels, Friedrich (1848, 1978) The Communist Manifesto in Tucker, Charles ed *The Marx-Engels Reader* 2nd edn United States of America: W W Norton & Company.

Marx, Karl (1870-71, 1954) *The Paris Commune* New York: The New York Labor News Company.

Marx, Karl (1873, 1984) Capital in *Machinery and Modern Industry in Marx* Vol IV USA: Encyclopaedia Britannica Inc pp 152-249.

Mayou, RA; Ehlers, A & Hobbs, M (2000) Psychological Debriefing for Road Traffic Accidents Victims: Three-Year Follow-Up of a Randomised Controlled Trial *British Journal of Psychiatry* 176 pp 589-93.

McBain, Paul (2003) State Forests of NSW, Personal Communication, May.

McCarroll, James, E; Ursano, Robert, J; Ventis, W, Larry & Fullerton, Carol, S (1993) Anticipation of handling the dead: Effects of gender and experience in British *Journal of Clinical Psychology* Nov Vol 32(4) pp 466-468.

McFarlane, AC (1987) Posttraumatic phenomena in a longitudinal study of children following a natural disaster in Journal of American Academy of Child *Adolescent Psychiatry* 26: 764-769.

Mead, Margaret (1935) *Sex and Temperament in Three Primitive Societies* London: Routledge.

Merejowski, Dimitri 1928, trans Guerney, Bernard, Guilbert *The Romance of Leonardo Da Vinci* vol two New York: Carlton House.

Mereth, Thomas, R and Brooker, Alan E (1985) Combat stress reaction: A concept in evolution *Military Medicine* April vol 150 (4) pp 186-190.

Milne, George J & Abbott, Jenny (2005) Study of the Effectiveness of Helicopters in Bushfire Suppression in Western Australia, School of Computer Science & Software Engineering Univesity of Western Australia November.

Milovanovich, Carl (2003) Magistrate, Deputy State Coroner *CORONIAL INQUIRY INTO THE CIRCUMSTANCES OF FIRES IN THE BRINDABELLA RANGES IN JANUARY, 2003.*

Mitchell, Thomas (1848) *Journal of an expedition into the interior of tropical Australia,* London.

Mooney, Scott D; Radford, Kate & Hancock, Gary (2001) Clues to the 'burning question': Pre-European fire in the Sydney coastal region from sedimentary charcoal and palynology *Ecological Management & Restoration* Vol 2 no 3 December pp 203-12.

Morris, Philip (1995) Medication in PTSD *National Centre News Issue* 1, December pp 7-8.

Morrow, Betty Hearn & Enarson, Elaine (1994), *Making the Case for Gendered Disaster Research* Paper given at the XIIIth World Congress of Sociology, Bielefeld, Germany, July 19.

Munford, Robyn (1992) Caregiving The Invisible Work of Women in *Superwoman Where Are You? Social Policy and Woman's Experience* 1st edn New Zealand: The Dunmore Press pp 82-103.

Napier, Michael & Wheat, Kay (1995) 1st edn *Recovering Damages for Psychiatric Injury* London: Blackstone Press.

National Centre for PTSD (2004) *What is PTSD?* www.ncptsd.org/facts/general/fs_what_is_ptsd.html.

National Nine News Victoria (2004) *CFA brigade to blockade national park* May 25.

Nielsen, Joyce McCarl (1984) *"Sex and Gender in Disaster Research"* Boulder: University of Colorado, Department of Sociology.

No author (1881) A Dreadful Tale in *Newcastle Morning Herald and Miners' Advocate* August 8 p2.

No author (1889a) College for Women in *Newcastle Morning Herald and Miners' Advocate* December 11 p 4.

No author (1989b) Women and Work in *Newcastle Morning Herald and Miners' Advocate* March 16 p4.

No author (1889c) Boycotting The Dawn in *The Dawn* October p1.

No author (1894) The Aborigines in *Newcastle Morning Herald and Miners' Advocate* April 20 p 4.

No author (1895) Merewether Tea and Concert in *Newcastle Morning Herald and Miners' Advocate* Saturday December 5 p 5.

No author, (1900a) Alleged Outrage in Newcastle in *Newcastle Morning Herald and Miners' Advocate* November 4 p 4.

No author (1900b) The Breelong Murderers in *Newcastle Morning Herald and Miners' Advocate* July 25 p 4.

No author (1901) A Fight to the Finish in *Newcastle Morning Herald and Miners' Advocate* September 27 p 4.

No author (1932) Female Unionists in *Newcastle Morning Herald and Miners' Advocate* July 8 p 8.

No author (1938a) OUR HISTORIC DAY OF MOURNING & PROTEST in *The Australian ABO CALL THE VOICE OF THE ABORIGINES* No 1 April pp1-2.

No author (1938b) To all Aborigines! in *The Australian ABO CALL THE VOICE OF THE ABORIGINES* No 1 April p 1.

No author (1938c) The Scourge of T.B. in *The Australian ABO CALL THE VOICE OF THE ABORIGINES* No 6 September p 2.

No author (1938d) A Long Range Policy for Aborigines in *The Australian ABO CALL THE VOICE OF THE ABORIGINES* No 1 April p 1.

No author (1939) Woman's Heroism Saved Family from Bush Fire in *Newcastle Morning Herald and Miners' Advocate* January 17 p 6.

No author (1958) "Lesser Intelligence" Doctor's Claim on Aborigines in *Newcastle Morning Herald and Miners' Advocate* October 11 p 3.

No author (1981) Aboriginal crime rate high in country in *Newcastle Morning Herald and Miners' Advocate* November 26 p 4.

No author (2002) Property Destroyed in *A PICTORIAL HISTORY OF THE NSW FIRES OF '94 FIRE AND COURAGE The Daily Telegraph Mirror* p 2.

No author (2002) Bushfire Charge Hearing in *Newcastle Herald* December 19 p 5.

Nolte, John (1993) *The Human Brain an Introduction to its Functional Anatomy* 3rd edn St Louis: Moseby.

Norris, FH, Perilla JL; Ibanez GE & Murphy A (2001) Sex differences in symptoms of posttraumatic stress disorder: Does culture play a role? *Journal of Traumatic Stress* 14: 7-28.

N Ralph Barraclough (2003) Submission to *A Nation Charred: Inquiry into the Recent Australian Bushfires* House of Representatives Select Committee on the Recent Australian Bushfires Canberra: Parliament of Australia.

NSW Bush Fire Coordinating Committee (1998) *Bush Fire Risk Management Plan* Revision 01 Issued September.

NSW Rural Fire Service (nd) No title other than *New South Wales Rural Fire Service*, headings including "The Organisation", "Community Education", "Training", "State Operations" and "Engineering Services", no page numbers.

NSW Rural Fire Service (1998) *fire! THE AUSTRALIAN EXPERIENCE* originally produced by the Country Fire Authority, Victoria as Fire in the Australian Environment.

NSW Rural Fire Service (2002) *Statutory Audit Report in Annual Report 2001/2* http://www.bushfire.nsw.gov.au.

Ollif, Lorna (1978) *Louisa Lawson Henry Lawson's Crusading Mother* 1st edn Hong Kong: Rigby.

Ollenburger, Jane, C & Moore, Helen, A (1992) *Feminist Methodologies* in Ollenburger, Jane, C & Moore, Helen, A (eds) A Sociology of Women: The Intersection of Patriarchy, Capitalism and Colonization 1st edn New Jersey: Prentice Hall pp 57-68.

Ollenburger, Jane, C & Tobin, Graham, A (2000) Women and Postdisaster Stress in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp 95-113.

Opitz, Claudia (1994) Life in the Late Middle Ages in Klapisch-Zuber, Christiane ed *A HISTORY OF WOMEN IN THE WEST II Silences of the Middle Ages* 3rd edn United States of America: Belknap Press of Harvard University Press pp 267-317.

Ormerod, Paul (1988) *The Death of Economics* 1st edn England: Faber and Faber.

Packham, David (2004) personal communications October.

Pagano, Robert, R (1981) *UNDERSTANDING STATISTICS in the behavioral sciences* 1st edn United States of America: West Publishing Company.

Palinkas, L; Downs, M A; Petterson JS & Russell J (1993) Social, Cultural and Psychological Impacts of the Exxon Valdez Oil Spill *Human Organisation* Vol 52 no '93 pp 1-13.

Parsons, Talcott (1949, 1964) *Essays in Sociological Theory* revised edition 3rd edn United States of America: The Free Press of Glencoe.

Pateman, Carole (1995) *The Sexual Contract* 2nd edn Stanford California: Stanford University Press.

Penk, W E & Allen, I M (1991) Clinical assessment of post-traumatic stress disorder (PTSD) among American war minorities who served in *Vietnam Journal of Traumatic Stress* 4 pp 41-66.

Plato (circa 370-5 BC, 1888) *The Republic 1V* trans, analysis Jowett, B 3rd edn Oxford: Clarendon Press.

Plato (circa 370 BC, 1924) *The Dialogues of Plato* Vol I trans Jowett, B 3rd edn England: Oxford University Press.

Plato (circa 370 BC, 1975) *Phaedo* trans Gallop, David Great Britain: Clarendon Press.

Poiner, Gretchen & Wills, Sue (1991) *The Gifthorse a Critical Look at Equal Employment Opportunities in Australia* 1st edn North Sydney: Allen & Unwin.

Poiner, Gretchen (1990) *The Good Old Rule Gender and other power relations in a*

rural community 1st edn Hong Kong: Sydney University Press.

Policy Unit, Office of the Women's Policy Unit, Queensland Health (1993*) Draft Protocols for Working with Women Who Have Been Raped and/or Sexually Assaulted* Brisbane: Queensland Health.

Pugliese, Joseph (1995) The gendered fighting of the dysfunctional serviceman in the discourses of military psychiatry *in Gender and War Australians at war in the twentieth century* 1st edn pp 162-177.

Pyne, Stephen, J. (1991) *Burning Bush A Fire History of Australia* 1st edn United States: Henry Holt and Company Inc.

Quadrio, Carolyn (2001) *Women Working and Training in Psychiatry* 1st edn Australia: Book House.

Raphael, Beverley; Meldrum, Lenore & Mcfarlane, AC (1995) Does debriefing after psychological trauma work? editorial *BMJ* 310, 10 June pp 1479-1480.

Robertson, Doone (1995) *A Perspective on Factors Affecting Training and Education of Women in Emergency Management* paper given at the National Conference Stress and Trauma for the Australasian Society for Traumatic Stress Studies and Australasian Critical Incident Stress Association Wrest Point Casino Convention Centre Hobart.

Robins, Lee, N (1990) Steps Toward Evaluating Post-Traumatic Stress Reaction as a Psychiatric Disorder *Journal of Applied Psychology* 20, 20 pp 1674-1677.

Roe, Jill (1987) Chivalry and Social Policy in the Antipodes *Historical Studies* Vol, 22, No 88, April pp 395-410.

Rosenman, Stephen (2002) Trauma and posttraumatic stress disorder in Australia: findings in the population sample of the Australian National Survey of Mental Health and Wellbeing *Australian and New Zealand Journal of Psychiatry* 36, pp 515-520.

Rothman, Stanley; Powers, Stephen & Rothman, David, T (1993) *Feminism in Films in Society* 30, 30/203, March-April pp 66-72.

Rowbotham, Sheila (1974) *Women, Resistance and Revolution* 2nd edn Great Britain: Pelican Books.

Rowland, Robyn (1988) *Woman Herself: a transdisciplinary perspective of woman's identity* Melbourne: Oxford University Press.

Ruch, Libby, O; Meyers, Bruce; Chandler, Susan & Harter, Richard, A (1980) Life Change and Rape Impact *Journal of Health and Social Behavior* 21 September pp 248-260.

Russell, Diana (1984) *Sexual Exploitation: Rape, Child Sexual Abuse and Workplace Harassment* 1st edn Beverley Hills: Sage.

Russell, Denise (1986) Psychiatric Diagnosis and the Oppression of Women *and Therapy* 5 pp 3-98.

Russell, Denise (1995) *Women, Madness and Medicine* 1st edn Cambridge: Polity Press.

Ryan, David (2001) Boambee Forestry Services Pty Ltd, personal communication, June.

Sallman, Jean-Michel (1994) Witches in Davis, Natalie Zemon & Farge, Arlette eds *A HISTORY OF WOMEN IN THE WEST III. Renaissance and Enlightenment Paradoxes* 3rd edn United States of America: Belknap Press of Harvard University Press pp 445-57.

Salvado, Dom Rosendo (1851, 1998*) The Salvado Memoirs Historical Memoirs of Australia and Particularly the Benedictine Mission of New Norcia and of the Habits and Customs of the Australian Natives* Storman, EJ trans 8th edn Perth: University of Western Australia Press.

Sanday, Peggy Reeves (1984) *Female Power and Male Dominance on the Origins of Sexual Inequality* 2nd edn Cambridge: Cambridge University Press.

Sarantakos, Sotirios (1993) *Social Research* 1st edn Hong Kong: Macmillan Education Australia.

Sassoon, Siegfried (1957) *Collected Poems by Siegfried Sassoon* 1st edn Great Britain: Faber & Faber Limited.

Saxon, Doug (1988) *PIT PROPS AND SLEEPERS* (The Story of Awaba) 1st edn Lake Macquarie: Newey and Beath Printers Pty Ltd.

Saxon, Doug (1991) *Bark Hut or Horse to Toronto Awaba School 1891-1991* 1st edn Toronto: E & J Taylor.

Shalev, Arieh Y (1993) Post-traumatic Stress Disorder: A Biopsychological Perspective *Israeli Journal of Psychiatry Related Science* Vol 30 No 2 pp 102-109.

Shute, Carmel (1995) Heroines and heroes: Sexual mythology in Australia 1914-18 in Damousi, Joy & Lake, Marilyn eds *Gender and War Australians at war in the twentieth century* 1st edn pp 23-42.

Sledziewski, Elisabeth (1995) The French Revolution as the Turning Point in Fraisse, Genevieve & Perrot, Michelle eds *A HISTORY OF WOMEN IN THE WEST IV. Emerging Feminism from Revolution to World War* 2nd edn United States of America: The Belknap Press of Harvard University Press pp 33-47.

Solomon, Susan, D & Canino, G (1990) Appropriateness of DSM-IIIR criteria for post-traumatic stress disorder *Comprehensive Psychiatry* 32(3), pp 1-11.

Solomon, Susan, D and Maser, Jack, D (1990) Defining Terms and Instruments for Assessing Traumatic Stress *Journal of Applied Social Psychology* 20, 20 pp 1623-1631.

Southern NSW Public Health Unit (2004) *Health in Southern Area* www.snswphu.webcentral.com.au/absect2.htm.

Southlakes Christian Women's Group Wangi Wangi, Lake Macquarie, NSW (1988) *WANGI WANGI AND ITS PEOPLE A Local History* Southlakes Christian Women's Group Wangi Wangi, Lake Macquarie: Marrickville NSW.

Spender, Dale (1991) *Heroines: A Contemporary Anthology of Australian Women Writers* 1st edn Ringwood: Penguin.

St John of God Hospitals Richmond (nd) *Post Traumatic Stress Disorder Unit* pamphlet from St John of God Hospitals Richmond.

Stanley, Liz (1984a) *The Diaries of Hannah Cullwick* London: Virago

Stanley, Liz (1984b) Should 'Sex' Really be 'Gender' - or 'Gender' Really be "Sex'? in Anderson, RJ and Sharrock, WW eds *Applied Sociological Perspectives* London: George Allen and Unwin.

Stanley, Liz & Wise, Sue (1990) Method, methodology and epistemology in Stanley, Liz (ed) *Feminist Praxis* 1st edn London: Routledge.

State Forests of NSW (2005) personal communication from spokesperson February.

Stearns, Peter N (1993) Girls, Boys and Emotions: Redefinitions and Historical Change *Journal of American History* Vol 80, No 1 June pp 36-73.

Stein MB; Walker JR & Forde DR (2000) Gender differences in susceptibility to posttraumatic stress disorder *Behaviour Research and Therapy* 32 pp 619-628.

Strachan, Hew (1983) *European Armies and the Conduct of War* 1st edn Great Britain: George Allen & Unwin.

Strauss, Anselm & Corbin, Juliet (1990) *Basics of Qualitative Research Grounded Theory and Procedures and Techniques* 1st edn Great Britain: Sage Publications.

Stretton, Leonard EB Justice (1939*) Report of the Royal Commission to inquire into the bushfires of January 1939* Parliamentary papers 6912/39 Melbourne: Government Printer.

Summers, Anne (2004) *Painting a Landscape for Women* Address to NSW Department of Education & Training International Women's Day; New Horizons for Women in VET; TAFE NSW Women's Strategy Forum.

Sutton, Jeanna (1995) *Women in Policing A Study of New South Wales Police* Report to the New South Wales Police Service.

Tannen, Deborah (1991) *You Just Don't Understand Women and Men in Conversation* 1st edn Milsons Point: Random House.

Taylor, Barbara (1983) *Eve and the New Jerusalem Socialism and Feminism in the Nineteenth Century* 1st edn Great Britain: Virago.

Taylor, John & Hunter, Boyd (2004) *Demographic Challenges to the Future of CDEP* http://www.anu.edu.au/caepr/iwepapers/TaylorHunter.pdf Centre for Aboriginal Economic and Policy Research Australian National University pp 1-8.

Terr, LC (1979) Children of Chowchilla: a study of psychic trauma *Psychoanalytic Study of Children* 34 pp 547-623.

The Australian ABO CALL THE VOICE OF THE ABORIGINES Nos 1-5, April-September 1938 ed Patten, JT Chippendale Sydney: Stafford Printery.

The Australian Oxford Paperback Dictionary (1998) eds Ludowyk, Frederick & Moore, Bruce 2nd edn Auckland: Oxford University Press.

The Macquarie Dictionary (1997) eds Delbridge, A; Bernard, JRL; Blair, D; Butler, S; Peters, P & Yallop, C 3rd edn Hong Kong: Macquarie Library.

The Oxford English Dictionary (1989a) prepared by Simpson, JA & Weimer, Vol II 2nd edn United States of *America: Clarendon Press Oxford.*

The Oxford English Dictionary (1989b) prepared by Simpson, JA & Weimer, Vol III 2nd edn United States of America: Clarendon Press Oxford.

The Oxford English Dictionary (1989c) prepared by Simpson, JA & Weimer, Vol XIX 2nd edn United States of America: Clarendon Press Oxford.

Thomas, Edith (1967) *The Women Incendiaries* 3rd edn Bristol: Secker & Warburg.

Thomas, William, I & Znaniecki, Florian (1918, 1974) *The Polish Peasant in Europe and America* Volume One 5th edn USA: Octagon Books.

Thomasset, Claude (1994) The Nature of Woman in Klapisch-Zuber, Christiane ed *A HISTORY OF WOMEN IN THE WEST II. Silences of the Middle Ages* 3rd edn United States of America: Belknap Press of Harvard University Press pp 43-69.

Tucker, Scott (2002a) Fire inquiry draws heat in clashes in *Newcastle Morning Herald* May 13 p14.

Tucker, Scott (2002b) anger burns on bushfire research in *Newcastle Morning Herald* June 28 p 20.

Turner, H (1994) Gender and social support: Taking the bad with the good *Sex roles* 30 pp 521-541.

Turner, John & Blyton, Greg (1995) *The Aboriginals of Lake Macquarie A Brief History* Newcastle: Lake Macquarie City Council.

von Clausewitz, Carl (1832, 1976) *On War* trans & ed Howard, Michael & Paret, Peter, Princeton: Princeton University Press.

Ullman, SE & Filipas, HH (2001) Predictors of PTSD symptom severity and social reactions in sexual assault victims *Journal of Traumatic Stress* 14 pp 369-89.

Victorian National Parks Association (2003) submission to *A Nation Charred: Inquiry into the Recent Australian Bushfires* October House of Representatives Select Committee on the Recent Australian Bushfires Canberra: Parliament of Australia p 11.

Walby, Sylvia (1986) *Theorizing Patriarchy* 1st edn Oxford: Basil Blackwell.

Walkerdine, Valerie (1990) *Schoolgirl Fictions* 1st edn London: Verso.

Walker, Geoff (2002) White Overall Days 1st edn Newcastle City Printers.

Walker, Geoff (2003-5) Retired RFS Captain Lemon Tree Passage Brigade personal communications.

Ward, David & Van Didden, Gerard (1997) *Reconstructing the Fire History of the Jarrah Forest of south-western Australia* A Report to Environment Australia under the Regional Forest Agreement December 1997.

Webster's Third International Dictionary OF THE ENGLISH LANGUAGE UNABRIDGED ed in chief Gove, Philip, Babcock 14th edn USA: G & C Meriam Company.

Wendt, Jana (1998) *Germaine Greer* July 22, 9.30pm, Great Britain & Sydney: ABC Television & Bay Productions.

Wessely, Simon; Deahl, Martin; Cannon, Mary; McKenzie, Kwame & Sims, Andrew (2003) Psychological debriefing is a waste of time *British Journal of Psychiatry* Vol 183(1) July pp12-14.

Whelan, Robert (2002) in *REPORT ON THE INQUIRY INTO THE 2001/2 BUSHFIRES Together with the Minutes of Proceedings* June Chair: John Price Sydney: Parliament NSW Legislative Assembly.

Whelan, Robert (2003) submission to *A Nation Charred: Inquiry into the Recent Australian Bushfires* October House of Representatives Select Committee on the Recent Australian Bushfires Canberra: Parliament of Australia p 3.

Williams, Brian (2002-5) RFS Captain East Kurrajong Brigade personal communications.

Williams, Christine (1989) *Gender Differences at Work Women and Men in Nontraditional Occupations* 1st edn United States: University of California Press.

Wilson, Jennifer, Phillips, Brenda D & Neal, David M (2000) Domestic Violence after Disaster in Enarson, Elaine & Morrow, Betty Hearn (eds) *THE GENDERED TERRAIN OF DISASTERS Through Women's Eyes* 2nd edn United States of America: Laboratory For Social and Behavioural Research Florida International University Miami, Florida pp 115-122.

Wolf, Naomi (1991) *The Beauty Myth* 2nd edn United States of America: Anchor Books.

Wolf, Naomi (1994) *Fire with Fire The New Female Power and How It Will Change the 21st Century* 2nd edn Australia: Vintage.

Wollstonecraft, Mary (1795, 1975) *An Historical and Moral View of the Origin and Progress of the French Revolution and the Effect It Has Produced in Europe* United States of America: Scholars' Facsimilie & Reprints Delmar, New York.

Wollstonecraft, Mary (1792, 1986) *Vindication of the Rights of Woman* 7th edn Great Britain: Penguin Books.

Women's Policy Unit (1992) *Stop Violence Against Women: Queensland Government Statement of Achievements* Brisbane: Women's Cabinet Queensland.

Wormsley, Peter (1972) ed *Introducing Sociology* 12th edn Great Britain: Penguin Books.

Yorke, James & Tien-Lien Li (1975) Period Three Implies Chaos *American Mathematical Monthly* 82 pp 985-92.