The Novelist as Engineer

A thesis on credible engineering components of fiction novels
(supplemented by an “engineering” fiction novel)

by D R Stevens
for the Masters Degree in Engineering (Hons)
2007
University of Western Sydney
This thesis is dedicated to Professor Steven Riley who inspired the writing of the thesis in the first place and provided encouragement when motivation waned.
I acknowledge the assistance of Professor Steven Riley, Professor of Research, School of Engineering, University of Western Sydney.

I also acknowledge Professor Leon Cantrell who gave significant and important advice particularly on the development of the supplementary novel, (called by the new genre name En-Fi) the title of which is “Amber Reins Fall”.

Thanks also go to Dr Stephen Treloar, CEO of Cumberland Industries Limited, where I am the Director of Marketing and Social Enterprises. His contribution is through the scarce resource of time the company allowed me to formulate this thesis.

Finally the thesis is dedicated in no small part to Caroline Shindlair who helped tremendously with the typing and construction of the actual documentation.
Statement of Authentication

The work presented in this thesis is, to the best of my knowledge and belief, is original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

(Signature)
Table of Contents

Abbreviations Page ........................................................................................................ ii
Abstract ........................................................................................................................ iii

1.0 Introduction ............................................................................................................. 1
  1.1 Thesis Overview .................................................................................................. 1
  1.2 The Engineer ...................................................................................................... 3
  1.3 Engineering And Social/Cultural/Moral Dilemmas It Creates ....................... 5
  1.4 The Thesis Structure ....................................................................................... 7

2.0 Literature Review ................................................................................................... 9
  2.1 Literature Overview .......................................................................................... 9
  2.2 The Engineer as a Character in Early Western Fiction ................................... 9
  2.3 The Engineer in Later Western Fiction ............................................................ 15
  2.4 The Engineering Perspective in European Fiction .......................................... 18
  2.5 Engineering in the Australian Novel ................................................................ 24
  2.6 Sci-Fi or En-Fi? .................................................................................................. 27
  2.7 Inventions from Novels .................................................................................... 30
  2.8 Conclusions of the Literature Review ............................................................. 33

3.0 The Novel’s of d’ettut ............................................................................................ 34
  3.1 The “Engineering” Novel as Proposed for this Masters Thesis ....................... 34
  3.2 Social Engineering in the Novel ....................................................................... 37
  3.3 Engineering in “Greenwars” ............................................................................ 40
  3.4 Engineering in “Pie Square” ........................................................................... 46
  3.5 Engineering in “Vampire Cities” ..................................................................... 52
  3.6 Science Fiction and the Novels of d’ettut ......................................................... 55

4.0 “Amber Reins Fall”: Constructing Engineering Fiction (En-Fi) In Detail .......... 57
  4.1 Chapter 1: Dawn on a Summer Holiday ......................................................... 59
  4.2 Chapter 2: A Mother’s Search for Myths ....................................................... 64
  4.3 Chapter 3: Party for 69 ................................................................................... 65
  4.4 Chapter 4: Suicide and Self Help ................................................................... 70
  4.5 Chapter 5: War ................................................................................................. 72
  4.6 Chapter 6: First Great Adventure .................................................................. 75
  4.7 Chapter 7: Nuclear Surprise .......................................................................... 77
  4.8 The Panama Component of Amber Reins Fall .............................................. 78
  4.9 Amber Reins Fall: Engineering and this Novel’s Key Concepts ..................... 81

5.0 The Conclusion ..................................................................................................... 83
  5.1 The Two Cultures Argument ......................................................................... 84
  5.2 Creativity vs Training for Engineering Credibility ......................................... 85
  5.3 En-Fi as a New Genre ...................................................................................... 85
  5.4 Engineering Summary in Amber Reins Fall and the Other Novels of d’ettut ........................................... 87
  5.5 Conclusion ...................................................................................................... 88

References ..................................................................................................................... 90
Appendices .................................................................................................................... 96
Appendix 1: List Of Inventions From Science Fiction .................................................. 97
Appendix 2: Supplementary Novel to the Thesis: “Amber Reins Fall” ................. 117
Appendix 3: Two Novels by d’ettut ........................................................................ 322
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>En-Fi</td>
<td>= Engineering fiction</td>
</tr>
<tr>
<td>Sci-Fi</td>
<td>= Science fiction</td>
</tr>
<tr>
<td>S-F</td>
<td>= Science fiction</td>
</tr>
</tbody>
</table>
This thesis investigates not so much the engineer as a character in fiction but the writer of fiction, the novelist, as a person who can have surprising insights into engineering principles without formal study or training in engineering. The engineer has featured in fiction novels significantly in the last century. The engineer as a protagonist in the novel on many occasions has been created by an author who is not an engineer.

The same comment could well be made regarding the writers of science fiction who indeed are not necessarily scientists but write credibly about scientific inventions, usually set in the future. This thesis argues that there is a distinction between writing science fiction and writing about engineering, although the two are often combined in the one novel. This thesis distinguishes science fiction (Sci-Fi) from what is described as En-Fi or engineering fiction. Engineering fiction or En-Fi is based upon real life engineering feats, if one accepts that the definition of engineering is the “application” of science and technology.

The specific hypothesis of this thesis is that credible engineering fiction (En-Fi) can be constructed by non-engineer trained authors.

To support this hypothesis there is both a review of novels with the engineer as a central character and an examination of novels where engineering concepts used in developing a storyline are outlined in detail.

Indeed, to support the above hypothesis a supplementary “En-Fi” novel has been created. This novel, titled, “Amber Reins Fall”, is used as the central device in addition to the literature review to prove that a writer untrained in engineering can write an En-Fi novel that has a high degree of credibility in engineering terms.
The construction of this engineering fiction (En-Fi) novel is carried out in detail outlining the various engineering devices used to strengthen the storyline. Examples of engineering such as a light engineering factory of the 1950’s, operational aspects of the Panama Canal and the disposal of nuclear waste in the Australian desert are included in the novel.

Three other novels by the author (of this thesis) are included as part of the argument supporting the hypothesis. They also demonstrate the combination of En-Fi and Sci-Fi. In the first novel “Greenwars” (d’ettut 1998) the overriding engineering component is AARDVARK (accelerated animal reasoning, decision making, voicing and reflective kinetics); the interactive voting video and dolphin scooters.

The second novel “Pie Square” (d’ettut 2000) has as the major engineering component the interactive video games.

The third novel, “Vampire Cities” (d’ettut 2000) has as the major engineering component a conductor’s baton (although this might be construed as science fiction).

Two of the actual novels, “Greenwars” and “Pie Square” have been appended as part of the thesis presentation. They both deal with the central character “Adam Teforp”, also featured in “Amber Reins Fall”. “Vampire Cities” has not been appended as this critical character is not part of that novel.

The literature review and the construction of “Amber Reins Fall” point to the validity of the hypothesis; that is that non-engineers can write convincing engineering orientated novels. Its also asserted that there is sufficient evidence to recognize a genre called En-Fi, different from the science fiction genre.
1.0 Introduction

This chapter introduces the major themes and hypothesis of the thesis. The novels of the author, which accompany this volume, are also presented in the context of the thesis.

1.1 Thesis Overview

The engineer has featured in fiction novels and short stories and just before the beginning of the twentieth century the engineer was seen as a cultural hero in many works of fiction. For example Willa Cather in “Alexander’s Bridge” (Cather 1912; Ed. 1976). Rudyard Kipling in “The Bridge Builders” (Kipling, 1894; Ed. 1987), and Richard Harding Davis in “Soldiers of Fortune” (Davis, 1897) presented their major characters as cultural heroes.

This thesis investigates not so much the engineer as a character in fiction but the writer of fiction, the novelist, as a person who can have surprising insights into engineering principles without formal study or training in engineering. The same comment could be made regarding the writers of science fiction, frequently referred to as Sci-Fi, who indeed are not necessarily scientists but write credibly about scientific inventions, usually of the future. There is obviously an overlap between writing engineering fiction and science fiction. However, this thesis distinguishes science fiction from what is described here as En-Fi or engineering fiction. Engineering fiction or En-Fi is based upon real life engineering feats and in the context of a common definition of engineering, is about the application of science and technology and based on design. Science fiction or Sci-Fi is based on what could happen in certain circumstances. This distinction is essential for understanding this thesis.
In the first instance the thesis briefly reviews descriptions of the “engineer as a character in literature”. One could well maintain that to write of an engineer as a character in literature the author would need to understand who an engineer is and what that engineer does. To use an analogy, would Jane Austen have been able to write Pride and Prejudice without her experience of the English countryside and social order of the time?

Engineering is interpreted in its broadest context, including civil, mechanical, electrical and even social engineering. The latter, ‘social engineering’ is seen as more than a mere metaphor. The definition of engineering is examined in the literature review.

There is a literature review of the “novelist as engineer”, that identifies fiction that demonstrates an understanding of engineering concepts by the authors of the relevant novels.

To demonstrate the above assertion that the novelist need not be an engineer in the writing of En-Fi, four novels written by the author of this thesis, are presented should the reader wish to pursue the authors approach to En-Fi in literature. Even with this author, in many instances the notion of En-Fi and Sci-Fi is mixed, for example in Greenwars, Pie Square and Vampire Cities (d’ettut 1998 and 2000).

For the novel constructed in conjunction with this thesis “Amber Reins Fall” the two genres (En-Fi and Sci-Fi) are not mixed. Amber Reins Fall has been constructed specifically to demonstrate that En-Fi can exist as a genre in its own right.

This one novel “Amber Reins Fall” has been written solely to support this thesis and is part of the thesis submission. Detailed explanations of the engineering concepts used in developing the story are outlined.
To be clear, the hypothesis of this thesis is that credible engineering fiction (En-Fi) can be constructed by non-engineer trained authors. To support this hypothesis there is both a review of novels with the engineer as the central character, an examination of the thoughts of others that relate to this hypothesis, and the presentation of some of the authors own novels, including one specially written for this thesis, that demonstrate his hypothesis and the arguments behind it.

1.2 The Engineer

It's recognised in literature that the engineer is a designer (Petroski 1998, Riley 2007, Ratner 2007). He or she has been designing certain critical aspects affecting human society for tens of thousands of years. Artefacts and major construction projects even predate the pyramids, as demonstrated by the engineering works of the Indus and Mesopotamian civilizations, which focused around water management (Mayslu and Angelakis, 2007).

Petroski (1992) comments that in the introduction of one of his books that “the ideas of engineering are in fact in our bones and part of our human nature and experience. Furthermore, I believe that an understanding and an appreciation of engineers and engineering can be gotten without an engineering or technical education” (p.vii). If this comment is accurate then the non-engineer can be a successful writer of engineering fiction and present accurate views on engineering in their novels.

For at least a century or so the engineer has featured in fiction. Novelists have variously described, in glowing terms, civil engineering feats like the construction of dams, bridges and railways. Much of this coincided with adventures of the novel’s hero (in many cases an engineer) in the frontier west of the United States of America; or in newly colonised countries like Australia (Alexander’s Bridge, Cather 1912; The Drowner, Drewe 1996; The Bridge Builders, Kipling 1894). These novels influenced people in the choice of their careers. “I became an engineer”, begins John Hersey’s 1956 novel “A Single Pebble”. This book describes an American engineer’s search for
potential dam sites for the Yangtze River. This book influenced at that time a 31 year old engineer named Samuel C Florman of the Kreisler Borg Construction Company in Scarsdale in New York (Zorpette and Ross, 2007). He had stated “for the first time in my experience I was conscious of viewing my profession through a prism of fictional imagination”. He is now a partner of the same company. The article goes on to indicate that Florman read all the novels he could where he found the engineers as protagonist. He then wrote a magazine article in 1959 about engineers as a character in fiction. This was the first piece of literature by Florman that now encompasses 250 articles and 6 books. However the literature does not indicate any notion of the non-engineer writing with engineering credibility; and not necessarily writing of engineers as protagonists in the novel. Again, Aileen Schumacher combined technical information and engineering with murder to teach readers about engineering. That book was called “Engineered for Murder” (1997). This is an instance of a writer, who ostensibly is an engineer who creates a credible storyline involving engineering concepts albeit with a “murder” theme to teach people engineering. But this is not the non-engineer author writing with engineering credibility.

On the other hand can the novelist reflect the social implications; that is the manifestations of the engineer’s actual innovations? For example the scientist/engineer in the post world war two era was seen, in many instances, as a villain. Berger(1976) goes into great detail describing the evolution of science fiction and nuclear power in the post Hiroshima period. The reaction of science fiction writers to the appearance of nuclear weapons in the real world, according to Berger, took place at a time when science fiction writers were trying to raise the quality of their fiction above the basic level of cowboy or spy stories set in space.

Many of the then contemporary science fiction writers described not only the villainous behaviour of some of the protagonists in the science fiction novels in the post nuclear age but also the frequent social upheavals and manipulations by government and politicians in a “black” nuclear age. This latter view was especially reinforced by the development of the atom bomb.
Much science fiction depicted those responsible for the development of the bomb as despicable, not being responsible, and creating a world in which horrible mutants were unleashed, and who, for at least a brief period, enabled chaos to reign in society.

On the other hand, as mentioned earlier, the engineer in the novels of the nineteenth century were lionised for their major projects around the world, including in particular construction of railways, bridges and dams. Significant examples are Willa Cather’s “Alexander’s Bridge” (Cather 1912), Rudyard Kipling’s “The Bridge Builders” (Kipling 1894), and Richard Harding Davis’s “Soldiers of Fortune” (Davis 1897).

This raises the notion of the En-Fi novelist as a visionary. What inventions, what artefacts, what designs can he or she as a pseudo engineer bring to society (through the novel) to impact on society; and what form will these impacts take? They could range from the moral or ethical impacts of the “interactive” games in fast food outlets, as in the novel “Pie Square” (d’ettut 2000), to the technology of AARDVARK in “Green Wars” (d’ettut 1998).

It should be noted that d’ettut is the nomen de plume of the author of this thesis and the associated novels.

1.3 Engineering And Social/Cultural/Moral Dilemmas It Creates

In the film “2001 – a Space Odyssey” Stanley Kubrick depicts man’s first tool, the club, and how it was wielded to crush the skulls not only of our ancestors’ prey but also of the same species’ enemy. This depiction illustrates graphically a race the human species does not seem to be able to win, that is, in the long term, to survive its own “inventiveness”. Perhaps no intelligent species can (see “Greenwars: The End of Mankind”, d’ettut 1998).

The first engineer was alive and well and functioning back at the time of Stanley Kubrick’s cavemen. He (probably not a she) designed the club and immediately it was turned towards its martial potential, as well as its “peace-
time utilitarian potential”. This was effectively the beginning of a race. Engineers design. Weapons are produced or advantage gained through increased capacity to exploit the natural environment. Exploitation of other species and other races of our own species begins!

It would seem inevitable that the human race is destined to die at its own hand and most probably as a consequence of the design and invention of even more powerful weapons of destruction. Greenwars (d'ettut 1998) is all about this race.

Do we blame engineers as designers or do we blame those who exploit the design for political and personal power reasons? The Rifle Society of America would maintain its not the fault of the designer (guns don’t kill people; people do). However this simplistic statement does not address the more complex issues of accelerating weapons design. In fact, even if engineering design is not used for weapons it still leads to complex social impacts. In the last few years the implications of the massive development in information technology is a powerful example. The technology of the web, the speed at which malevolent as well as benevolent situations can be delivered is there for all to witness. Pornography is an example. The use by Al Qaeda of the web to make weapons such as terrorist bombs is almost uncontrollable. This is malevolent. On the other hand there is the benevolent aspects of the web, for example medical education can be delivered inexpensively and comprehensively, world wide.

What role does the non-engineer author have in this benevolent and in particular malevolent use of engineering design? He or she can perhaps send warnings to the unenlightened or general public through the auspices of the novel. Use of exaggeration or magnification or even perversion of a particular engineering concept can be described in graphic form; the implications of the engineering design and the potential impact on society can raise awareness for those who wish to heed the authors’ warnings.
The two major themes of this thesis, namely the non-engineer as author of engineering work, and the social and moral perspectives of the author of En-Fi are reviewed in the remainder of this thesis, using a specially constructed novel to demonstrate the arguments along with other novels of the author and other writers.

1.4 The Thesis Structure

The thesis and “supplementary” novel constructed to support the thesis, and other attached novels, should be read as follows.

Chapters 1, 2 and 3 of the thesis should be read first. This will act primarily to orientate the reader with an historical perspective and as a guide to specific “engineering” concepts imbedded in three earlier novels by this author, that is “Pie Square (d’ettut 2000)”, “Green wars” and “Vampire Cities” (d’ettut 2000). Given the “supplementary” novel to this thesis is the third in a retrospectively written trilogy, it also provides important information on the development of the main character Adam Teforp, who incidentally holds all the engineering concepts together across all three novels.

It’s not essential to read the novels of this author other than the one created for this thesis. But if the reader wishes to read these novels in addition to “Amber Reins Fall” then optimally, the two novels “Pie Square” (d’ettut 2000) and “Greenwars” (d’ettut 1998) and perhaps “Vampire Cities” (d’ettut 2000) should be read at this stage.

“Amber Reins Fall”, which is the novel specifically created for this thesis, should be read after Chapter 3. “Vampire Cities” (d’ettut 2000) which is not part of the trilogy and does not embody Adam Teforp as a character, but does describe some interesting technical/design issues, could be read, as mentioned.

Chapter 4 of the thesis briefs the reader in the construction of the “supplementary” novel, “Amber Reins Fall”. It describes the thoughts behind
the development of the “engineering” concepts. Chapter 4 also covers a specific incident in the En-Fi novel, that is the “Panama incident”. This relates to the Panama Canal and to the authors personal experiences with engineering as other than a professionally trained engineer. Thus Chapters 4 and 5 should be read last. Chapter 5 of the thesis will draw conclusions to finalise the arguments in support of the hypothesis of this thesis, namely that credible engineering fiction (En-Fi) can be constructed by non-engineer trained authors.
2.0 Literature Review

2.1 Literature Overview

The central hypothesis of this thesis is that credible engineering fiction (En-Fi) can be constructed by non-engineer trained authors. This hypothesis follows-on from Petroski’s (1992) observation about the inherent nature of engineering. Towards arguing for the hypothesis this literature review has not examined the vast and impressive literature on science fiction in detail, neither the actual literature itself nor the analysis of this literature. Others have undertaken this review (see Pringle 1996) and there is little to be gained from repeating their reviews. Engineering focuses on design and the application of science and technology. Design and application can have both a social and technical context, as engineering is practised always within a social (community) environment. Science fiction tends to focus on the social impacts of the science as well as the technology. Its accepted that its not always possible to separate engineering fiction and science fiction. After all, Scottie of the Enterprise in StarTrek, was an engineer. The overlapping boundary is explored in this chapter. This thesis is not about the technology – such is the realm of science fiction.

The literature review was undertaken across many genres including science fiction, thrillers and adventure novels where engineering concepts have formed a significant part of the story line. The emphasis is on the epistemological aspects of technology rather than specific engineering techniques or processes.

2.2 The Engineer as a Character in Early Western Fiction
Elizabeth Ammons (1986) wrote about the emergence of the engineer as a hero. “Titan, magician, gambler; the engineer at the turn of the twentieth century was a celebrated national hero – the man, literally, would erect the brave new century (page 746)”. Its important to consider in some detail the pervasive and pronounced cultural mythology that surrounded the engineer by the end of the nineteenth century. The figure was part of the American adventure tradition, in life and fiction. The engineer particularly appealed to the “widespread, masculine, American fascination with martial values at the beginning of the new century” (page 748).

T.J Jackson-Lears (1981) has suggested that at the beginning of the twentieth and late nineteenth century there existed in the US amongst those who were educated, privileged and generally white middle class, a form of depression derived from a “suffocated sense of over-civilisation” (page 104).

Ammons (1986) goes on to say “There developed a lust for action and adventure” (page 748), presumably to overcome this depression or suffocation. She pointed out that at the turn of the twentieth century Scribner’s magazine, as well as Century, McClure’s and Harpers ran frequent articles on engineers and engineering successes. Scribner’s had written about canals of the next century. McClure’s (1907) had written about the invention of the monorail and Century (1895) had run an article titled “The Conquest of Arid America”. Harpers (1910) had produced an illustrated essay “In Praise of Bridges”. Ammons (1986) goes on to say “it was in the fiction of the period that one could find the engineer as a cultural hero” (page 749).

Richard Harding Davis (1897) wrote the bestseller “Soldiers of Fortune”. The hero travels the world building thousands of miles of railroads and bridges over deep canyons, rearranging entire landscapes. This hero, Robert Clay is a young civil engineer who has a secret history as a mercenary. He is working in a small South American country (possibly Panama). This is a time when capitalism is on the rise. He has identified and started to exploit a
massive magnetite deposit. He is to create berthing docks and a railway as well as exploit the mine itself.

There is not a lot of technical detail in terms of mining expertise. It appears that Davis, the author, was a reporter on a Philadelphia newspaper. He was also a war correspondent which probably is the basis for his writing of the fictional Clay as being a “soldier of fortune”. In support of the hypothesis of this thesis, there is no evidence to suggest that Davis had any engineering expertise or training.

Kipling wrote a famous story “The Bridge Builders” (1894). He writes of engineers developing a bridge that withstands the most powerful attacks of nature. There are no indications that Kipling had any exposure, directly or indirectly to engineering. He was born in Bombay in 1865. His father John Lockwood Kipling worked at an Arts School and he was an author and illustrator. Rudyard Kipling received some military training but essentially his entire working career was that of a journalist. Perhaps that training and experience in journalism enabled him to build the shield of engineering credibility used successfully by many fiction authors. Michel Crichton (cited later) is a good example of the authors who developed an “engineering credibility” by putting in technical information at the front end of their essay or story.

Kipling created the character Findlayson a chief engineer from the “Public Works Department”. Extracts from The Bridge Builders taken from the collection of short stories “The Day’s Work”(1987), demonstrate either a significant understanding of engineering or Kipling’s ability to be able to draw out the relevant technical information required to provide an authentic sounding description of the bridge which is the centrepoint of the story.

“Findlayson, C.E. sat in his trolley on a construction line that ran along one of the main revetments - the huge stone-faced banks that flared away north and south for three miles on either side of the river... his work was one mile and three-quarters in length; a lattice-girder bridge, trussed with the Findlayson
truss standing on seven and twenty brick piers. Each one of those piers was twenty-four feet in diameter, capped with red Agra stone and sunk eight feet below the shifting sand of the Ganges' bed. Above them was a railway-line fifteen feet broad……..”(page 1)

“The girders of the three centre piers – those that stood on the cribs – were all but in position. They needed just as many rivets as could be driven into them, for the flood would assuredly wash out their supports, and the ironwork would settle down on the caps of stone if they were not blocked at the ends…”(page 6)

“The big crane would be the last to be shifted, for (it) was hoisting all the heavy stuff up to the main structure of the bridge. The concrete blocks on the fleet of stone-boats were dropped overside, where there was any depth of water, to guard the piers, and the empty boats themselves were poled under the bridge down-stream…..”(page 6)

Kipling talks up the “Findlayson truss”. It would appear that this is an invention from the chief engineer himself. But is this an engineering invention of Kipling’s? It’s not mentioned in the technical literature and yet none would suspect that this is an invention of the author.

“His bridge was twice the size of Hartopp’s, and it carried the Findlayson truss as well as the new pier-shoe-; the Findlayson bolted shoe…(page 8)”

And there is some indication that he understands certain aspects of perhaps hydraulic engineering.

“An immensely complex plan had suddenly flashed into Findlayson’s mind. He saw the ropes running from boat to boat in straight lines and angles – each rope a line of white fire. But there was one rope which was the master rope. He could see that rope. If he could pull it once, it was absolutely and mathematically certain that the disordered fleet would reassemble itself in the backwater behind the guard-tower…” (page 10)
An interesting component of this short story is that at this point in the story line Findlayson takes opium. The description given by Kipling would indicate a very strong understanding of physiological as well as the psychological effects of opium. However there is no evidence to suggest that Kipling himself was a user. The rest of the story moves away from the ingeniously built engineering scenario to one of wild hallucinations under the effects of opium. Animals talk, the river talks. The gods visit. Finally after the opium wears off and the flooding which is important in the story subsides and Findlayson’s surveys his bridge intact.

Whilst the references to Findlayson, the Chief Engineer, and the Findlayson’s truss are important, as they further support the hypothesis that credible engineering concepts can be developed by authors who are supposedly not engineers by training, the paragraph above moves into an area which is important to this thesis and that is “social engineering”. A complete description of social engineering will be found in Chapter 3 with the reasons why this is considered important.

In McClure’s (1907) journal there is a short story by Viola Roseboro called “Mistaken Man”. In this story an honest but ambitious engineer gives into cost-cutting demands of the capitalists who put up the money for the bridge he is designing. The engineer compromises and the compromised bridge subsequently collapses. This leads us to “Alexander’s Bridge” written by Willa Cather (1912).

“Alexander’s Bridge”, published in 1912, is a brief interlude into the love life of a great engineer who has reached a critical political and personally fateful time in his life.

There is a very comprehensive description of bridge construction and in particular bridge de-construction. This forms a major part of the story line. There are specific technical descriptions from an author who apparently was
not an engineer. The anti-hero in this novel is an engineer and his characteristics, training and other related aspects are described in detail.

In terms of the novelist’s understanding of engineering and in her depiction of the main character, Cather has considerable insight into the structural aspects of bridge building. She alludes to this “unremarkable student” but who was always strong in “higher mathematics”. There is reference to Bartley Alexander’s (the engineer in the novel) significant reputation as an engineer and how he had been called to Japan at the Emperor’s request to lecture at the Imperial University. There he institutes reforms not only in the practice of bridge building but in drainage and road making. (a reference to his general ability as a civil engineer). His major accomplishment is the Moorlock bridge, “the longest cantilever in existence”. Ultimately its the structural failure in this bridge that forms the denouement in the novel with his death and the collapse of the bridge. Its in the description of the bridge’s inadequacies that the novelist reveals her understanding of basic engineering principles. Alexander, just prior to the collapse of the bridge, talks of the “lower chords showing strain and the unauthorised adding of weight to the structure”. Alexander also asks his assistant about the “compression members showing strain” with the bridge two thirds done (page 121 and 122). This could be an indication of the novelists lack of engineering training because compression is usually associated with “stress” not “strain”. On the other hand, if the bridge did collapse (which it did!), this indicates that the author does have some understanding of basic engineering. She also talks of “we never were justified in assuming that a scale that was perfectly safe for an ordinary bridge would work with anything of such length”.

She also mentions “using higher unit stresses than any practice has established and we put the dead load at a low estimate. Theoretically it worked out well enough, but it had actually never been tried”.

Ultimately there is a disaster “Once the chords began to buckle there were thousands of tons of ironwork all riveted together and lying in mid air without
support. It tore itself to pieces with roaring and grinding and noises that were like the shrieks of a steam whistle”.

So these examples in the literature review of early western fiction demonstrate clearly that a novelist can write successfully and credibly about engineering without being formally trained as an engineer.

2.3 The Engineer in Later Western Fiction

Most of Michael Crichton’s work has featured some sort of technical/scientific/engineering backdrop. For example his first published novel “The Andromeda Strain” (Crichton 1969) was based on a bio-engineering science extrapolation. It could be argued that Michael Crichton writes science fiction. However he would probably be the first to disagree with this. His novels, and there are many of them, including Sphere (1987), The Terminal Man (1972), Rising Sun (1992), Airframel (1996), Prey (2002), etc. vary enormously in the storyline and the technical precedence used to create the storyline.

Firstly looking at “Timeline” (1999); (science fiction, including some comments on time travel, will be covered briefly in Section 2.6), the justification for time travel comes about through extrapolations of quantum mechanics. Crichton (1999) is meticulous in his more than 50 pages of explanation of the evolution of quantum mechanics into time travel. From the discovery “that energy came in quanta was the start of quantum mechanics” right through to the actual teleportation of the key characters back to the 13th Century. (p. 109)

Crichton goes on to talk about the “temporal provincials”. “Those that were convinced that the present was the only time that mattered and anything that occurred earlier could be ignored” (page 73). And then he goes on to say “yet the truth was that the modern world was invented in the Middle Ages. From the legal system, to nation states, to reliance on technology to the concept of romantic love at first being established in medieval times” (p. 73). So Crichton is covering an interesting concept and making a poignant social
comment. He writes on many social issues and this seems to be a common attribute of En-Fi. That is, there is always social commentary on various issues, whether those social issues are specifically related to the impacts of engineering or whether the author is digressing to a secondary story line. However, in terms of our definitions Crichton is one author who does write both about Sci-Fi and En-Fi.

In “Congo” Crichton (1980) goes to some lengths at the beginning of the story to describe ERTS, a real world company “Earth Resources Technology”. This was a relatively new company, “formed in 1975 in response to the explosive growth of the information on the Earth and its resources through satellite technology. The amount of material handled by ERTS was staggering: just the Landsat imagery alone amounted to more than 500,000 pictures and 16 new images were acquired every hour, around the clock. With the addition of conventional and aerial photography, infra red photography, and artificial aperture side looking radar, the total information available to ERTS exceeded 2 million images with new input in the order of 30 images an hour. All this information had to be catalogued, stored and made available for instantaneous retrieval........ ERTS was like a library which acquired 700 new books a day .....Instead of cameras ERTS use multi-spectral scanners; instead of film they use the CCT’s – computer compatible tapes” (p. 397). Crichton (1980) goes on in much more detail to describe the technical aspects of this new company. For example “ERTS has evolved other ways to check the validity of the images they got back from the computer. Ross ran two check programs against the gorilla image. The first was called APNF, for Animation Predicted Next Frame” (p. 398). Crichton goes on to describe various experiments in teaching language to chimpanzees. He does this in great detail, although one would not consider this to be an aspect of engineering. As is his inimitable style, Crichton spends a considerable amount of the first part of the storyline describing in detail a technical infrastructure that supports the remaining and exciting story, which is about the search for the Lost City of Zingi by Ross in his quest for diamond mines. The technical backdrop that Crichton is building up is one to do with satellite imagery that will enable an expedition to more easily locate this lost
city, where-upon these diamonds will be discovered. However that ends up being only the subplot. The real plot relates to a new species of ape that actually could communicate. They had vocalized language and a sort of sophisticated sign language. Real world engineering examples help Crichton to develop a credible story that is clearly fictional.

A third novel, “Jurassic Park” (Crichton, 1991), uses the same technique of detailed description of a technological/engineering concept, followed up by a substantial adventure story. In this case the engineering involved is genetic engineering and to quote the introduction “bio-technology promises the greatest evolution in human history. By the end of this decade, it will have out distanced atomic power and computers in its effect on our everyday lives.” (p. IX). Crichton goes on to describe how bio-technology differs in 3 important respects from past scientific transformations.

“What its broad based…. Bio-technology research is now carried out by more than 2000 laboratories in America alone” (p. IX).

The story of Jurassic Park is well known to everybody, especially since the release of the 3 movies based on the novels (Jurassic Park 1, Jurassic Park: The Lost World and Jurassic Park III). DNA of various species going back 90 million years to the dinosaur era is revitalized through the alchemy of bio-engineering. In fact Crichton (1991) brings in early all of the technical aspects necessary to build up the credibility of reintroducing primeval beasts to today’s environment.

The technical descriptions cover nearly 200 pages of the 400 or so page novel. The technical descriptions are reinforced all the way through the book, always enhancing credibility.

Michael Crichton is not an engineer, however he graduated from Harvard Medical School and thus has an understanding of technology. He is also keenly interested in computers and ran a software company which developed computer programs for motion picture production in the 1980’s. So his ability
to write credible engineering concepts is there; although he is not an engineer by formal training.

**2.4 The Engineering Perspective in European Fiction**

In Europe, at the beginning of the 20th Century, there were writers who had a good grasp of engineering principles, if not writing about the engineer as a hero.

In Gaston Leroux’s (1986) “Phantom of the Opera” the author conjures up notions of a cleverly designed series of mirrors that allow the phantom of the opera to effectively kidnap the heroine Christine. He talks through the Persian “and it takes some time to release the counter balance, when you press on the spring from the inside of the room”. When questioned about the mirror and its counter balance by Raoul the answer from his friend, also seeking Christine is “Why, its the counter balance that lifts the whole of this wall onto its pivot. You surely don’t expect it to move by itself, by enchantment!. If you watch, you will see the mirror rise an inch or two and then shift an inch or two from left to right. It will then be on a pivot and will swing round”. (p. 190)

Leroux gives a stronger indication of his understanding of certain engineering aspects associated with the Opera House.

“Contrary to what one might think, especially in connection with an opera house, the ‘organ’ is not a musical instrument. At that time, electricity was employed for only a few scenic effects and for the bells. The immense building and the stage itself was still lit by gas. Hydrogen gas was used to regulate and modify the lighting of a scene; and this was done by means of a special apparatus which, because of the multiplicity of its pipes, was known as the ‘organ’”. (p. 193)

Leroux goes on to explain the details of a series of cellars below the stage. He describes further how a series of partitions were built to protect “water surrounding the building - operations from remaining in immediate contact with the walls supporting the whole of the theatrical machinery; the architect
was obliged to build a double case in every direction” ……”Erik’s mysterious house was built in the double case form of a thick wall constructed as an embankment or dam, followed by a brick wall, a tremendous layer of cement and another wall several yards in thickness.” (p. 202)

Leroux certainly knew something about engineering. In a footnote he said “all the water had to be exhausted, in the building of the Opera House. To give an idea of the amount of water that was pumped up, I can tell the reader that it represented the area of the courtyard of the Louvre and a height half as deep again as the towers of Notre-Dame. And nevertheless the engineers were obliged to leave a lake”. (p. 202)

Indeed the descriptions the author gives of the lake below the Opera House are compelling and inventive in terms of their creation of atmosphere; whether there be trap doors, secret entrances or mazes; all part of the labyrinth that protected the evil Erik. And of course there was the torture chamber “we were in the middle of a small six-sided room, the sides of which were covered with mirrors from floor to ceiling.” (p. 217)

“But the invention belongs entirely to Erik, who built the first room (the room with six walls covered with mirrors) of this kind under my eyes”…. “a decorative object, such as a column, for instance was placed in one of the corners and immediately produced a hall of a thousand columns; for, thanks to the mirrors, the real room was multiplied by six hexagonal rooms, each of which, in its turn, was multiplied indefinitely” (p. 229).

“All these details of a perfectly straightforward invention, giving, with the aid of a few painted branches the supernatural illusion of an equatorial forest blazing under the tropical sun” (p. 232).

And on the author goes (p. 235) creating mirages with mirrors “don’t believe in the water!… its another trick of the mirrors!….”

In the foreword to “Phantom of the Opera”, (Virgin 1986 London), Peter Haining, who wrote the forward goes into some technical detail “the Opera House in Paris is in fact the largest theatre in the world….holding an
audience of a little over two thousand people. It does not have the largest audience capacity but from a construction perspective is the largest”. (p. 15)

In the foreword, its also explained how the water below the Opera House had to be drained and eight steam pumps worked day and night to achieve this. The water was allowed to return to form the subterranean lake which plays a significant part in the story of the Phantom. “The Opera House contains seventeen floors and a vast mass of stairways and corridors. Also it has a subterranean stable to accommodate one hundred people, six coaches and as many as fifty horses” (p. 18).

Leroux was a theatre lover and it was during one of his visits to the Opera House he came across the legend which inspired this story. Clearly again Leroux was not an engineer but his evident familiarity with the Paris Opera House goes far beyond that of a normal appreciation of such an edifice. Leroux was not a trained engineer but he was certainly able to strengthen the stories credibility by alluding to the various technical aspects of the Opera House that might well be sufficient in engineering detail that one would suspect he is an author that did have engineering training (which he didn’t).

In Victor Hugo’s (1987) “Les Miserables”, the sewers of Paris are described in detail. Jean Valjean came upon “one of those blind alleys” called in the special language “branchmants”. (p. 247)

For Jean Valjean “to direct himself (in the tunnels of the sewers) was difficult, for the sewers represent, so to speak, the outline of the streets standing over them.” “He was walking in an enigma. The aqueduct of the cloaca is formidable. For it intercepts itself in a vertiginous manner” (p. 249). Jean Valjean then walked on. “the right bank empties one of its watersheds into the Seine, and the other into the Grand Sewer. The crest of this ridge, follows a most capricious line; the highest point is the St. Avoye sewer, near the boulevards and in the Monte Marte drain. The intermittent flashes of the street grating only appeared at lengthening intervals. He unexpectedly found himself in a gallery who’s two walls his outstretched arms did not reach and
under an arch which his head did not touch. The grand sewer in fact is eight feet wide and seven high” (p. 251). Hugo goes into some technical explanations as follows “before the important work began in 1833 the subway of Paris was subject to sudden breaking ins. The water filled through a subjacent and peculiarly friable soil“ (p. 252)

In fact Hugo’s explanation of Paris’ sewer design is almost as extensive as his description of the battle of Waterloo, to the point, not of being tedious, but demonstrating vast technical knowledge of the area of his interest. And in this case the engineering aspects of Paris’ sewer nether-world. This reinforces the hypothesis again that an author with little or no engineering training can be convincing in his command of technical knowledge of such things as the Paris sewers.

William Golding had no formal technical training, although during the Second World War he served in the Royal Navy and was a Lieutenant in command of a rocket ship (The Oxford Companion To English Literature (1996)). Other than his war service he was a professional writer, actor and producer, initially with small theatre companies. He was then a teacher. His first novel did not appear until 1954 and that was “Lord of the Flies”. “The Spire” (Golding, 1964) was written ten years later. Unlike authors in the vain of Michael Crichton he did not dedicate a significant amount of the novel to establish the credibility of the technical aspects. Crichton, as has been mentioned previously, would dedicate 100 or even more pages to tight and intricate descriptions of technological devices he applies within his novels. However, “The Spire” does gain technical credibility by his brief but continuous references to various details of construction.

Unlike in Michael Crichton’s novels, in “The Spire” its difficult to pull out those technical descriptions that are the writer’s device for credibility. The following, with comments, present some of the indicators of the technical involvement. For example on page 30, at a critical moment of the story, there is reference to “there are no foundations”. The lack of foundations is not only a technical inclusion but is a double metaphor used by William Golding relating to the
protagonist himself and his unsubstantial claims to be doing God's bidding and in general to his unsubstantiated inferences of how things unfold in the novel itself.

There are many references to the lack of foundations but on page 39 “Look. The foundations, the raft if you like, are just about enough for the (existing) building. But for nothing more; or little more. And now these workmen know it.”

And then the writer goes on to add technical credence “they rose, each a cluster of stems that splayed out in branches to support the roof. There was a dimness under the roof, so that from one hundred and twenty feet below it, the eye was unable to follow the pattern around the wooden lid that closed the vent in the centre”. (p. 64)

To page 83 “it stands to reason. Now we must stop building……….after all, you have one light completed, one window. You can have a pinnacle at each corner, and four heads of Dean Jocelin – we should have to cut them again by the way – one above each window. We’ll lead in a roof and you can put a weathercock in the middle. Do more; and the earth’ll creep again…….”

And then slightly more technical “Here was how the white stone rose, with sheer lights, where even now the glaziers were wiring into squares of grisaille. It was a new place in the sky, and sunlight was slashing it through, so that as Roger Mason climbed like a bear, the sunrays swirled around him…..The hole through the vault into the chimney was smaller, because some of the beams that would make a flooring for the vast apartment of the lower stage were already in place. But there was still a wide space left in the middle for the lifting of stone and wood. Yet the beams seemed to confine and define the busy world up there next to the sky, so that it was correspondingly brighter among the wielded sunrays, the moving beams, the scaffolding, ropes and near vertical ladders.”…( p. 95).
Page 118 “the sheer impossibility of the spire!...It’ll be a stone skin with stone members. Inside there’ll be a series of those octagons each a little smaller than the one below it...Have to pin those octagons together, and hang them from the capstone so that they hold the skin down by their weight.... All added to this; all boring down on the columns, on the skin of the wall, down on the singing pillars-“.....”it’ll thrust at the tops of these four columns and it’ll thrust – out!. I could put pinnacles on each to bear down – should have to – but there”d be a limit to the height I can make them, because of the weight.

Page 145 “the whole thing rests on wedges. He’ll pin the woodwork into the capstone. If a storm blows up before that – topple, bang, smash!. If not, he’ll slacken the cable little by little and let the octagons, or the members between them, stretch down. The whole thing’ll hang and hold the spire against the wind”.

“The Spire” is set in another period when the technical was not so technical. In fact the stone work involved in building the four hundred foot spire is done by stone masons who were more craftsman than engineers. Although it would be argued that they were the predecessors to today’s civil engineers. Even so Golding develops credibility by the technical definitions he provides and once again there is no evidence to suggest that William Golding was an engineer. He was another author who created credibility through technical detail.

Robert Louis Stevenson’s “Treasure Island” was written in the late nineteenth century. Robert Louis Stevenson’s father was Thomas Stevenson who was joint engineer to the Board of Northern Lighthouses (The Oxford Companion To English Literature (1996)). It would appear that the author had some exposure to engineering through his father and grandfather, although he in fact studied law at the University of Edinburgh. He was financially dependent upon his father and at the time of writing “Treasure Island” he was receiving a considerable amount of input from his father to the book. Thus there is some possibility that his detailed descriptions on the island of the stockade and also the numerous detailed descriptions of the Hispaniola, the ship on which
he voyaged to Treasure Island, were undoubtedly based on input from his father the engineer. A considerable amount of enhancement to the exciting storyline is achieved by detailed descriptions, not only of characters and scenes but also of buildings and vessels.

2.5 Engineering in the Australian Novel

Kate Grenville’s (1999) novel “The Idea of Perfection” deals with bridges, large and small, steel and timber. In an interview she writes in the University of Sydney Gazette (April 2002, pages 6 & 7), of the background to the writing of the book. Originally she had intended to write a book about the Sydney Harbour Bridge in terms of the politics and personalities involved in its construction. She mentions that she did research at Sydney’s Engineering Library and found that “concrete is a very thick liquid which goes on flowing, or creeping long after its set”, and also, “that in cement setting the chemical reaction is so fast that no one has been able to measure what goes on at a molecular level”. After considerable research on the Sydney Harbour Bridge she indicates that she was wandering through a paddock in a small country town outside Sydney when she found a small timber bridge over a stream. It was then she decided that her novel would be based more on a small timber bridge rather than a giant steel bridge. This for her was a metaphor. She discovered that Leonardo Divinci’s description of a bridge is also a good guide for relationships “An arch is two weaknesses that together make a strength.”

In her book (Grenville, 1999) she writes of a bridge engineer “who suffers from vertigo so he was given the small jobs, small bridges close to the ground” (page 27). "The metaphor of the bridge, encompassing Leonardo Divinci’s description of a bridge, was the relationships between two flawed people in the novel. Certainly, while her book does not delve into the engineering concepts, she has indicated by her own writings that she researched very significantly in engineering before starting the final drafts of her novel. This author, clearly not an engineer, has admitted to considerable
research into her topic before writing the novel. Thus with no formal training in engineering she is still able to create the needed credibility.

The focus of Robert Drewe’s “The Drowner” written in 1996 is water. “The Drowner” is actually a term from several hundred years ago in agricultural countryside England. These are highly knowledgeable craftsmen/artists, who know the soil, the sub-soil and whatever lies beneath that. “Just as he knows the land, the slightest deviation from level and the location of each deviation, he knows the streams and the sounds they make, and the river water, too – its colours, speeds, temperatures and consistencies and all the different regions it passes through. He understands the river all the way back to its source – the spring, the rain, the dew, the darkening nimbus. He knows of the relationship of earth and water” (page 36) “The Drowner creates intricate systems or trenches and drains and rivulets that regulate the water from mainstreams to appear for harvest. Then he “drowns” vast areas near rivers and then dries them out at the appropriate times to enhance the whole irrigation process.

The anti-hero in the story, Will, has a romantic interlude with an actress at the time he is studying to become an engineer. (We imagine he is being trained to be an hydraulic engineer).

Around half way through the novel, the reader is introduced to the gold fields of Western Australia located in some of the most arid parts of the world, with unrelenting desert and continual drought. One of the major aspects of the novel is the appointment of Will to become a supervising engineer for a pipeline that is desperately needed to carry water from the coast to the inland gold fields of Western Australia. This is indeed the story of the Kalgoorlie Pipeline.

Its apparent the novelist has done significant study (apparently not formally) on certain engineering aspects of moving water many hundreds of miles in many instances against gravity. There is reference to “radical, rivetless locking – bar pipe, new to the engineering world”. (p.182). He obviously has
some understanding of the geotechnical aspects of the construction of a dam at the head of the pipeline “The dam workers have been digging through gravel and limestone and granite for six months and we’re down 100 feet ….” (p. 184)

The author displays some knowledge of new engineering techniques of the 19th Century “as for the caulking, each pipe has to be joined to its fellow by a simple ring packed with lead. Every 28 feet along the aqueducts 350 mile length, there is a joint to be caulked – the pipes length having been determined by the length of the railway wagons hauling them into the desert” (p. 191). The author has some understanding of hydraulics. As the pipeline nears completion he says “the number eight pumping – station generators have proved to be in perfect order. Everything works. The water can’t but flow profusely at the proper moment and thereafter. All the water has to do is fall, to reclaim the horizontal.” (p. 197) The author yet again creates credibility in terms of engineering description although not trained, apparently, as an engineer.

Mary-Rose MacColl wrote the “Angels in the Architecture” (1999). This novel is set in a church/convent in Brisbane. There is clearly articulated architectural and civil engineering terms used by the author who apparently is neither architect nor engineer.

Dudley Hood wrote “The Decahedron: The Ten Faces of the Sun” (2004). This novel has been included as there is reference to the Panama Canal in “Amber Reins Fall”. There is an attempt, and a credible one, by the Decahedron novelist to depict certain technical aspects of the Panama Canal within this novel. These are carried off well. Its known that the novelist is not an engineer. He is in fact a musician. He had actually been caught up in Panama at the time of the US invasion to capture Noriega. He wrote the draft of the novel while he was stranded in Panama City at the time. The technical aspects are covered in Section 4.8 in the thesis.
2.6 Sci-Fi or En-Fi?

It was in the late 1920’s that science fiction gained its name in the American pulp magazines. It was in the early 1950’s the contraction “Sci-Fi” was used, although there was a derogatory connotation to sc-Fi (to some extent this was mitigated against by purists calling the genre S-F). Pulp magazines were aimed at a very wide audience and the readership was considered to be “low brow”. Science fiction as a form of popular literature is considered by some as not a single genre but as a cluster of over lapping sub-genres. In the Ultimate Encyclopaedia of Science Fiction, edited by David Pringle (1996), he lists several sub-genres. These include space opera for tales of inter-stella heroes like Isaac Asimov’s “Foundation and Empire” trilogy. There is planetary romance where a romantic adventure unfolds on a colourful alien planet. There are future cities. These are stories of bleak high tech urban futures. There are disaster stories whether they are man-made or natural, which include John Wyndham’s “Day of the Triffids” (1951). Then there are alternative histories. These are stories set in the future which have diverged from our common history. Although the popular appeal might have started in the early twentieth century in the United States, science fiction was not that new. Readers in Europe as well as the United States were already familiar with the stories of H.G Wells from the mid 1880’s.

A distinction has been made between science fantasy and science fiction. Whilst science fantasy doesn’t argue for a rational approach or indeed stories that conform to the laws of nature, science fiction does. The writer J.G Ballard (Wikipedia 1987) said that science fiction is inspired by science, whereas fantasy is inspired by fiction. Where does that place a novel inspired by an engineering concept? Can we call it engineering fiction or “En-Fi”?

Indeed its interesting to draw a quote from “Genreflecting: A guide to popular reading interests” (edited by Wiegand in 2006). “Many scientists and engineers claim to have been inspired in their career choice by reading science fiction. For example Donna Shirley, Aerospace Engineer and former Manager of the Jet Propulsion Laboratories Mars Exploration Program....
says she found her inspiration at the age of 12 in Arthur C. Clarkes “The Sands of Mars”. (p. 317.)

In Wiegand (2006, p. 341) it says “Although nano-technology has a specific definition pertaining to engineering on the atomic level .... its often used in science fiction to describe situations simply involving extreme miniaturisation of technology. An example is Michael Crichton’s “Prey” 2002. Virtual reality involves a computer generated world. Similarly Sci-Fi writers have explored this area, for example in Wil McCarthy’s “Murder in the Soviet State” 1996. Virtual reality is one of the inventions used in “Pie Square” (d’ettut 2000) to launch a massive social engineering experiment.

Finally in Wiegand (2006, p. 349) its observed that “bio-engineering is a particularly rich field for science fiction writers to explore. DNA, genetics, cloning, etc take biology to another level”. The bio-engineering aspects of Greenwars (d’ettut 1998) has attempted to do this again, reflecting the social implications of such developments.

One distinction made in earlier writings was that between the novel and the romance. Novels deal realistically with societies that surround us and are usually about social class and individual ambition. Romances are essentially adventure stories set in distant times or exotic places. The hero is obliged to overcome various obstacles and villains. Most fiction seems to borrow from both. It takes realism and the respect for facts from the novel and psychological excitement from the romance. Pringle (1996) makes the case that Northrop Frye identified a third type of fiction distinct from the novel and romance. This third style is sometimes referred to as the Lucianic Satire. This is the kind of fiction that tends to be fantastic and puts a lot of emphasis on discussion and dramatisation of ideas. This style goes back to the time of the Greeks.

It has been suggested that Thomas Moore revived Lucianic Satire and set the foundation for science fiction in 1516. He, with some associates produced a book length fiction called “Utopia”. If we accept the notion of the Lucianic
satire as the beginnings of science fiction we would have to accept stories such as “Gullivar’s Travels” by Jonathon Swift (1726) as a sort of beginning to science fiction. Whilst Swift at first appearance may not seem to be directly linked to science fiction its reported he had a great influence on H.G Wells. Writing in the utopian tradition towards the end of the 18th century co-incided with exploration and also the discovery of the “future”. In 1771 Louis Sebastian Mercier created memoirs set in the year 2500. This story involved a narrator thrown forward by almost 700 years to a Paris that had been transformed for the better by the application of reason, science and technology.

Mary Shelley’s “Frankenstein” (1818) is sometimes claimed as the first science fiction novel. Its about a Swiss student who builds an artificial man from bits and pieces of dead bodies. However it was the world wide success of Jules Vernes’ novels after 1863 that science fiction really became an established genre (Pringle 1996). At this point it became apparent that the application of science and even certain aspects of design which would fall under the auspicious of engineering became more apparent. Authors go into more detail in terms of describing whatever device they were using to create a basis for their storyline. H.G Wells had studied biology and was well versed in scientific inventions. His early books, “The Time Machine” (1895), “The War of the Worlds” (1898), and “The First Man on the Moon” (1901), all had a credible engineering perspective.

How much does the science fiction novelist need to know about engineering? And, is there more evidence for a new genre called En-Fi; or engineering fiction?

There are a multitude of themes or motifs that science fiction writers engage with. Some of these clearly need no engineering background. The space operas, the planetary romances, the alternative histories, the alien invasions, the pre-historical romances, even those stories to do with mental powers in ESP and cosmic collisions are not so dependent upon engineering contexts (Pringle 1996). However future cities are described in many science fiction
stories. Here at least some basic understanding of design and extrapolation of urban life is needed by the author. Time travel, although rarely given a sound or technical perspective needs some sort of engineering insight. (Although Pringle suggests that time travel has more to with “ingenious convolution of plot” rather than science). Artificial intelligence, stories with cyborgs (fusion of flesh and machine), the endangered environment and genetic engineering would need some basic understanding of engineering. Space habitats and space travel themes invariably have detailed descriptions of certain technical aspects associated with the stories (Pringle 1996).

A review of science fiction would be a major work in its own right in terms of the contribution of the engineer. However this thesis has limited itself to engineering concepts which are not technically unfeasible nor even far fetched. This thesis is more interested in the aspects of engineering, in the context of the novel, as a device for facilitating the story line. Engineering fiction is seen as dealing with technology that exists now, that is real, or the application of technology and science. Science Fiction deals with a technology that “might be”. Its the level of detail and the engineering credibility that is the main point. Victor Hugo’s (1987) descriptions of the sewers of Paris, Leroux’s (1986) descriptions of those aspects of the Opera House in the Phantom of the Opera are fine examples of reasonable technology and reasonable engineering of the time, described in detail, to add to the story line.

2.7 Inventions from Novels

Notwithstanding the decision made not to cover the genre science fiction, it would be remiss not to mention HG Wells as the most prolific science fiction writer in terms of the “theoretical inventions” he designed, described or displayed.

For example the first automatic sliding doors used by people were invented around the mid 1950’s. The first one was installed in 1960. However in “When the Sleeper Awakes” by HG Wells, written in 1898, he talks of the
automatic doors. “And instead of going through the archway as he expected, walked straight to the dead wall of the apartment opposite the archway. And then came a strange thing; a long strip of this apparently solid wall rolled up with a snap, hung over the two retreating men and fell again, and immediately Graham was alone.” (p. 77)

From the same book comes a description from HG Wells of the automatic surface measurer, something that has only become popular in the twenty-first century and is utilised by tailors. “the tailor pulled our a number of slotted arms terminating in little discs, pulling them out until the discs were flat against the body of Graham, one at each shoulder blade, one at the elbows, one at the neck and so forth, so that at last there were, perhaps, two score of them upon his body and limbs. At the same time, some other person entered the room by the lift, behind Graham. The tailor set moving a mechanism that initiated a faint-sounding rhythmic movement of parts in the machine, and in another moment he knocked up the levers and Graham was released.” (p. 121)

Finally there is the basic idea behind an arcology (a single structure that is intended to provide living space and a mall). This description also comes from the same novel “When the Sleeper Awakes”. “A thing Graham had already learnt, and which he found very hard to imagine, was that nearly all the towns in the country, and almost all the villages, had disappeared. Here and there only, he understood, some gigantic hotel-like edifice stood amid square miles of some single cultivation and preserved that name of a town.” (p. 146)

Amazingly in the book “When the Sleeper Awakes,” apart from the automated surface measurement and the automatic door and the arcology mentioned above, there is an appliance like a PDA, another appliance like a DVD/VCR (entertainment player), a moving picture player (like a video ipod), a moving roadway (like a baggage conveyor) and others. All these were thought of in the one novel in 1899.
Wells began his career as a teacher and by studying at night he received a Scholarship in 1884 at a School of Science (The Oxford Companion To English Literature (1996)). This would give him a background for some of the inventions he created. As a novelist he was a major contributor to the then new genre of science fiction. His numerous science fiction novels are social allegory, political satire, warnings about dangerous new frontiers and powers in science. His preoccupation with social comment combined with his understanding and predications of scientific progress distinguishes him significantly from the fantasies of other writers like Jules Verne. He wrote many works to do with scientific and political speculation which clearly linked his various intentions to the societies he predicted; however its difficult to suggest which came first, the invention with the consequential social outcomes or social trends bringing forth certain inventions.

Technovelgy.com “Where Science Meets Fiction” in a section on “engineering and science fiction,”, listed one hundred and ten different “engineering ideas” or inventions (see Appendix 1). The bulk of the authors listed are well known science fiction writers (for example HG Wells, Robert Heinlein, Isaac Asimov, Frederik Pohl, Kurt Vonnegut, “Doc” Smith, Frank Hervert, Edgar Rice Burroughs, George Lucas and Ray Bradbury).

The inventions range from architectural coral and atmosphere control to a disintegrating ray and electronic protection wires (electrified fence). They range from mining disintegrators through to photovoltaic cells. Its interesting to note that some of these inventions like bio-energy (producing energy from organic material) go back to 1726. This was first put forward by Jonathon Swift in “Gullivers Travels”. In 1894 John Jacob Astor wrote of a rain making device (aeriduct). More recently, but well before their time, were Harry Harrison’s Helmet Mounted Display Screen of 1951, Robert H Nelson’s photoelectric course warning in 1931, the rooftop windmill of John Jacob Astor as a renewable energy vision in 1894, a weather integrator described by Robert Heinlein in 1941 and Ray Bradbury’s voice clock in 1950.
These are just a few of the many, many inventions mentioned by science fiction writers that have become reality, if not quite as they were envisaged by the writers. Most of these inventions are aluded to in passing by the writers and do not form the central basis for the storyline. HG Wells was probably the most prolific of the theoretical inventors; probably with many more inventions than Michael Crichton (at least to date). However notwithstanding the sheer volume of HG Wells inventions Michael Crichton, by far, is the most descriptive in the detail he uses to build the credibility of his inventions.

2.8 Conclusions of the Literature Review

Engineers write books and engineers write fiction. Some of that fiction is engineering fiction. This thesis is not about engineers writing. Its about writers who are not engineers but who include such intricate and detailed descriptions of engineering functions and engineering devices that one could be forgiven for believing they were formally trained in engineering. This literature review has concentrated on the English-language literature. There is known to be literature in other languages (e.g. Russian) but there is neither the time nor the resources to explore this literature. Nevertheless, the English language literature is sufficiently broad, both geographically and temporally, to demonstrate there are many instances of writers who are untrained as engineers, writing with real engineering credibility to such an extent, one would be forgiven for believing they had in fact received formal training in engineering.

To further expand the thesis its proposed to describe how a novel can be constructed, as part of this thesis, to demonstrate that an author, untrained in engineering, can provide sufficient credibility in a work of fiction for readers to believe the author probably has some engineering training.

The next chapter (Chapter 3) goes some way in developing the argument of the untrained engineer as a credible writer in fiction.
3.0 The Novel’s of d’ettut

3.1 The “Engineering” Novel as Proposed for this Masters Thesis

The novel being constructed as part of this masters thesis has to be understood in the context of the development of an anti-hero called “Adam Teforp”. He has already featured in two novels. This thesis includes the third novel in a retrospective trilogy which describes Adam Teforp’s emergence as a budding capitalist, one who can create immense wealth as is seen in the first two novels “Pie Square” (d’ettut 2000) and “Greenwars” (d’ettut 1998). Moreover he is a highly creative entrepreneur able to invent processes and businesses that have significant social effects.

In “Pie Square” (d’ettut 2000), Teforp emerges from a mysterious background (to be revealed in this novel, “Amber Reins Fall”). He creates a fast food chain that envelopes the world and the psyche of youth. The details behind the development of this capitalistic masterpiece are explicit, in engineering terms, both scientific and social.

“Greenwars” (d’ettut 1998) describes the development of AARDVARK, a machine that enables animals to speak. That in itself is not so spectacular but the social engineering that arises as a consequence of the fast track evolution of the intellect of the animals is.

The novel written for this thesis, also written under the same nom de plume, d’ettut, is called “Amber Reins Fall”.

34
The book starts in the 1950’s in Adelaide and focuses on the development of a light engineering factory and reports on the social activities of that time. Simultaneous to the development of the factory is the emergence of a philosophy of self-development by a prescient person of the period. This alludes to social engineering. Adam Teforp (first-man-profit/prophet) then develops the proto-type of the “mind centres” which ultimately are hoped to develop into a global chain that ‘McDonaldises the human mind’. This of course is the forerunner for the “Pie Square” fast food chain.

The development of the first mind centre reflects the frustrations of the developer in terms of the physical and operational constraints, his battles with local government and statutory requirements, all juxta-posed against a higher level of thought, reflected in the self development philosophy of an aging suicidal gay and finally Teforp’s plunging into bankruptcy.

Finally, the book moves onto the notion of the storage of nuclear waste, the consequences of which are not realised for decades. The following sections will describe in detail the engineering aspects of “Pie Square” (d’ettut 2000) and “Greenwars” (d’ettut 1998), as a prelude to the description of the construction of the novel “Amber Reins Fall”, which is supplementary to this thesis.

The link between engineering, engineering concepts and social engineering cannot be underestimated. Particular designs of particular structures will no doubt effect human behaviour. Environmental psychology, sometimes including the notion of engineering psychology, goes to great lengths to talk of the ways in which the physical environment and its design can affect human behaviour (Birren 1963; Sommer 1969; Bennett 1970; Lee 1976; Canter 1977). The various physical aspects of the environment which can effect human behaviour range from break up of space to thermal environment, from levels of illumination to the acoustic environment; even from colour schemes to signage. If this were not the case would retail outlets be placed before immigration and custom areas in airports? There are many examples (Sommer 1969; Gerngross-Maas 1977) of design of physical
premises overlapping with social engineering within the context of the definitions above. In this case social engineering is more than a mere “metaphor”. There are novels which illustrate this interlinking of engineering and human behaviour and social engineering.

“The Iron Heel” was first published in 1907. In this story by Jack London the contents of a manuscript, hidden for centuries, are revealed. Its a retrospective view of the battle between socialism and capitalism in the opening decades of the 20th Century. Unfortunately, the novel is not strong in descriptions of technical devices or inventions; indeed anything to do with engineering other than social engineering.

A similar novel by William Morris “News from Nowhere” was published in 1890. Again its a utopian view of socialism that exists in the 21st century. In fact in this novel its almost a case of reverse engineering. For example the hero in the novel notices with pleasure that his “old enemies, the Gothic cast iron bridges, had been replaced by handsome stone ones”. Indeed this novel is characterised by the idolising of medieval times, in the simplicity of life in an industrial period. He does talk of force-barges that “were going on their way without any means of compulsion visible to me” (page 146). In fact inventions are spurned. In one section (page 146) “You see, guest, this is not an age of inventions. The last epoch did all that for us, and we are now content to the use of such of its inventions as we find handy, and leaving those alone which we don’t want.”

Clearly both books focus more on the notion of social engineering. They examine an ideal social situation, from the authors point of view in the way society needs to be engineered to achieve those aims; whether its through law or social evolution. For the novels of d’ettut, including “Amber Reins Fall”, ideal “social situations”; are important. For example in “Pie Square” (d’ettut 2000) training youth to be socially responsible, through interactive technology, links hard engineering concepts to “soft” social engineering.
3.2 Social Engineering in the Novel

Social engineering in literature as a concept, despite a substantial literature search, is difficult to articulate. Most of the information provides a context for social engineering primarily within computer hacker’s use. The basic definition of social engineering (Brenner 2002), used in the computer industry, indicates that its the art and possibly science of manipulating people to comply to one’s wishes. Its not considered a form of mind control as it could not allow people to get others to perform tasks that are significantly outside their normal behaviour traits. Its also considered to involve more than quick thinking. It can involve a lot of ground work and information gathering before attempts at exploiting or gaining information are made. Within the computer industry social engineering concentrates on the weakest link of a computer security chain. Its stated that perhaps the only secure computer is that which is unplugged (Brenner 2002). However if one can persuade someone to plug in the computer and switch it on, this means that even a powered down computer is vulnerable. The human part of the security set up is the most essential. All computer systems rely on humans. Thus the weakest link in the computer security are the humans. Because humans use the systems and can be influenced to use the systems, then in this case social engineering is seen as attempting to steer an individual towards completing a computer task that is driven by an outside agency. One of the key ways in manipulating individuals within the computer context is creating a contrived situation. More factors for the recipient to consider than just an individual request will create a situation where that person is more likely to be persuaded because a hacker can create reasons for compliance other than simply personal ones.

Outside of the computer industry, in group settings there are what are known as “demand characteristics” (Brenner 2002). So if the setting has strong social constraints on how participants should act, there is the notion of social engineering again. People will not wish to offend other people nor undermine the views of other well respected participants. This will lead to the decision of
“go with the flow”. Using situations with these characteristics are a form of social engineering.

Most social engineering is conducted by individuals (Brenner 2002), so the social pressure or social setting influencing factors have to be constructed by creating a believable situation in which the target feels immersed in. Certain characteristics will work for the social engineer in certain situations. The diffusion of responsibility is one of them. This is when the individuals believe they are not responsible for certain actions. Another is for a chance of ingratiation. Here the individual believes that by complying they are making themselves more favourable to someone who may give them future benefits. Finally there is moral duty. This is when the individual complies because they feel its their moral duty to do this. Part of this is guilt.

On a personal level there are methods that can be used to make another person co-operate. The idea from a social engineering point of view is to enhance voluntary compliance, not to force people to do things. For Adam Teforp, the protagonist in the accompanying novel, “Amber Reins Fall”, social engineering is very important. Whether he is acutely aware of it or not he is greatly influenced by the self-help manuscript of Fabian. There are a series of profound insights offered by Fabian in his book “Winning Life”. This novel within the novel, chronologically, has significant affects upon Adam in his later life as he matures morally. This should be juxtaposed against the low moral tone of Adam’s family life. Ultimately Adam is to try and create his “thinking factory” which fails; albeit with his reference to “Maker of Fine Minds” and “McDonaldising the Human Mind” he is on a journey to manipulate. His involvement in an enterprise in “Amber Reins Fall” to store nuclear waste is another attempt by him to try and accept the responsibility (and money making potential) of storing nuclear waste. This is a problem not wished to be confronted by any other nation. In the later novels he becomes even more directly “manipulative” such as with his interactive video machines in the “Pie Square” fast food outlets. There is a high, positive moral overtone that represents the impact of the interactive video games on the juvenile audience. Again one can assume that Teforp in this novel is living out of
some of the guidance he received from the manuscript Fabian wrote. The invention of “AARDVARK” is the ultimate in manipulation. This machine is a bio-engineering intervention on several species of animal. Species manipulate within species and species manipulate other species.

Co-operation is another important factor. One of the more famous forces of persuasion is known as the “foot in the door” factor. Research has shown that people are more likely to comply with a request if they have previously complied to a smaller one. So this “foot in the door” notion includes a positive history of co-operation where things have gone well in the past. Also highly involved people are persuaded better than those who are not. So the social engineer will try and create situations in which the levels of involvement are enhanced. (Think again in terms of “Pie Square” (d’ettut 2000) and the interactive video games; the games are all enveloping!)

What does all this mean in the terms of literature? Social Engineering has existed in some form or other since the beginning of time, primarily because most humans trust others in certain circumstances. In the “World as Laboratory” anthropologist Rebecca Lemof (2005) captures much of what is argued here in her first book. She describes that through the efforts of social engineering we have come to live in a world that reflects the “rats in a maze” laboratory of the experimental psychologist. In particular in science fiction, the roles of the psychologist, and the objects of control and experiment, are quite obvious; albeit they might be presented as agents of the government manipulating the people. “The Matrix”; “Dark City”; “A Brave New World” are but a few examples of these “rats in a maze” science fiction stories.

Jacob Foster’s “Brave Old World” (2006) states “it would take money to take the vision of social engineering out of the laboratory and into the real world…. like that provided by the …. Rockerfeller Foundation. Under the direction of …Beadsley Ruml, a branch of this charitable trust, spent US$50million to launch American social engineering… the goal was simple; to gather critical data on human behaviour and relations, data that could ultimately be applied to “order and control”. (p 2)
Foster goes on to quote the famous American psychologists including Watson, Hawthorn (of the famous Hawthorn experiments), Miller, Dollard and others to explain the emergence of social engineering with the requisite psychological research to back up the claims.

Novels since their first development have often been full of deceit, trickery, and manipulation. Fictional characters are frequently the foil, or alternatively are the perpetrator in complex plots that involve shifting perceptions and subterfuge. This list is too long to mention here. So social engineering, whether its been included consciously or unconsciously by the writer, is quite a common attribute in the novel; and not just restricted to Sci-Fi. Social Engineering in “Amber Reins Fall” is an important consideration and Chapter 3 of that book goes into detail in setting up a situation which has a profound effect on the anti-hero Adam Teforp. That occurs not only in the rest of “Amber Reins Fall” but also, as mentioned above, in the two other novels featuring Adam Teforp, Greenwars (d’ettut 1998) and Pie Square (d’ettut 2000).

3.3 Engineering in “Greenwars”

“Greenwars” (d’ettut 1998) is the first of three novels in which Adam Teforp appears as a character who exploits “inventions”.

The intent in “Greenwars” (d’ettut 1998) was not only to convince the reader of the technical feasibility of developing a machine-implant that enables speech, particularly speech in English. Rather the inventions within the book are to show that no matter what level of technology the species achieve, at some stage in their existence, technology will outstrip the development of the appropriate morality for those members of a species who should achieve a higher moral existence. For this thesis this is an important consideration. The engineer, the designer of new technology and its associated infrastructures, has a profound impact on society. In fact an engineer’s accomplishments can lead to the downfall of society.
AARDVARK is merely a device that demonstrates how quickly the nobility of the species can deteriorate in terms of the worst aspects of politics and interpersonal relationships that we have experienced in the reign of mankind on the planet earth.

One would hope the technical design and the credibility of the devices within “Greenwars” (d’ettut 1998) are of some interest to the reader. The “Age of Voice” is introduced in the first few pages of the book. This is the age at which dolphins (Sea-citizens) are also entitled to name themselves after some famous person in human history. This is the age at which they have had a ceramic instrument surgically implanted into their skulls which enables them to talk. In fact the language of communication is a form of English. The prologue makes first reference to AARDVARK and the Chronicles of the “Greenwars” (d’ettut 1998). The second chapter, set in an unspecified period, many years prior to the prologue, introduces Adam Teforp. At this stage Adam Teforp has made a lot of money from a lot of ventures. His Institute of Trauma Rehabilitation in Los Angeles is his home away from home. Sydney ostensibly, is his home of origin. (In fact we find out in “Amber Reins Fall” his home of origin is Adelaide). The “Chronicles of the Greenwars” on page 23, describes Teforp’s technical triumph….

“His biggest breakthroughs, his biggest successes, his greatest achievements had been in the area of reconstructing thought processes and intellectual ability combined with the ability to verbalise. Through his team, he had demonstrated time and time again that those considered comatose only three or four years ago were now able at least to articulate their thoughts, albeit in a metallic way. No longer did they have to suffer the lingering half life of an active mind entombed inside a body that could not even communicate with the outside world. His most recent invention, brought about by the micro-miniaturisation of computer components, had been able to stimulate speech activated by the very thought processes of those who only years ago would

1 All italicised sections are direct quotes from the works of the author (d’ettut), hereafter in this thesis.
have lain ostensibly brain-dead for the rest of their lives. Now at least some could communicate their living nightmare to the outside world, so they could clearly instruct their loved ones to terminate their miserable existence. In other cases the very act of verbalisation, without bodily movement, was enough to inspire creative minds to continue productive thinking and articulation for the remainder of those lives”.

On page 25 his trauma repair operations successes are made apparent. Teforp is in his mid fifties and had no medical training but nevertheless “They had succeeded in three primary areas that could not yet be released to the world. They had created voiceability when none had existed before. They had accelerated intelligence, not just restored it, through some rather intricate rewiring. And through nanotechnology they had been able to do some fine-tuning of his motor movement that made him look now like an Olympian rather than the physically impaired catastrophe that he’d been several weeks ago”.

Teforp’s fame has spread far and wide and he gets involved in a conspiracy to dramatically reduce the human population.

He hears the CNN reporter announce “almost anti-climatically that within two years the Mediterranean Sea would be officially dead.”

He works on a vaccine that will save a small percentage of the world’s population against the venom that will kill humans in massive numbers. However he surgically places AARDVARK (which stands for accelerated animal reasoning, decision making, voicing and reflective kinetics) into his pet German Shepherd. The dog miraculously is able to speak in English after some rather intensive therapy, with the same operation.

AARDVARK is given to dolphins with great success. The operation is repeated on primates. And that’s where the trouble begins. In Chapter 2
Teforp is dead and a new world of Land and Sea-citizens evolves rapidly. After a few generations cracks begin to appear in the relationship between the dolphins and primates. There is a cry from the primates to extend the AARDVARK operation to a lesser species, one that will consume at a vast rate and propagate fast, giving the Land-citizens immense wealth.

But a dark side emerges through the wife of one of the leading primates. She introduces AARDVARK to a tiger with devastating results. AARDVARK brings forth a fearsome revolutionary with the intent to conquer the world (on behalf of the consumers of the new society). Page 119 brings in the design of interactive video voting. But this had to have a darker side.

“The invention of the truly interactive video that allowed the voting on all major issues for Land-citizens and Sea-citizens alike had been a true triumph of primate technology. Originally Gandhi had embraced the notion and had thought that it would be an absolute victory for common sense, responsible commitment by both classes of citizens, and good government. However, it soon became apparent that the primates owned the video broadcasting channels. Although it couldn’t be proven, it was obvious that there was a fine level of manipulation and plotting by the primates to influence the voters through the video screens.”

The video screens it seems were the harbinger of mass consumerism for both dolphins and the cats, The cats are the new underclass. The cats are pejoratively referred to as ‘meeowies’. The dolphins finally succumb to consumerism; but also to the Land-citizens themselves.

The expansion of the ambition of the primates is reflected on page 131 as Archimedes destroys a heritage listed hamburger store with a bulldozer.

“The full force of Beethoven’s Ninth, the Choral Symphony, coursed through Archimedes’ veins as he held on grimly at the back of the giant D9 bulldozer. Headphones sat snugly under his helmet. Some things the humans produced he thought were truly sublime. He watched in awe as the sheer power of this
machine from hell crushed through the virgin bush on either side of the now aged Maxilillian’s hamburger store.

To the trill of the music he looked ahead over the precipice, uncomfortably close to the area they were levelling, down, down, forever down, to the valley below. The blue haze of the mountains hung over the trees, blanketing the valley floor and creeping up the escarpments on either side. A truly spectacular view.

The need for the heliport had been well established now for several years.

Only sixty miles or so from Sydney’s delightful and civilised chaos, the Blue Mountains were a favourite destination for international Land-citizens visiting this greatest of cities.

As though borne of the same rarefied air breathed by the Blue Mountains human predecessors, strong pockets of resistance to what they called the defiling of nature had sprung up to object to the heliport. To make it worse, and this really angered Archimedes, a local group he was happy to call primates pejoratively and not Land-citizens, had managed to chain themselves to certain sections of the Maximillian’s building about to be demolished. This rag-bag element considered this edifice, not much more than thirty years old, to have great architectural merit. It was one of the last surviving remnants devised by man, who provided Voice”.

“Last surviving remnants,” sniggered Archimedes to himself. “There are still four thousand of these monstrosities spread around the world. How parochial can you be? What are they trying to preserve? A piece of architecture, some bricks and mortar, or their sheer intransigence? Surely their irrationality must be a result of some unknown noxious ingredient imbued in the gum trees around this area. Or perhaps,” he mused, inside his helmet and the privacy of Beethoven, “there was a lingering hysteria that was trans-species; that was endemic to this particular region of rock, precipice and sheer beauty”. 44
Cities such as Hong Kong and Sydney are described in ways that reveal the gradual eroding of human influence. Social engineering is introduced several times, but on page 165 Rupert, another of the primates, one who is a media baron has his exploitation of literature explained.

“As usual Rupert had taken literature as a form of mental manipulation of the masses. He had gone on to argue that, to introduce AARDVARK to another species, he would write as though it was already happening so that people would have to believe it was fiction. “This was done by the humans, you know. We never did get to the bottom of it but it seems that alien cultures from other planets really were here on earth. So its been said that the government, to cover this reality, conspired with film-makers and other fiction creators to write many science fiction stories that were realistic. But then, knowing the nature of the masses, those simple souls would automatically believe the stories were fiction”. And so, social engineering again arises, linked to the formidable AARDVARK. In a similar way Rupert would leave out the fact that AARDVARK was almost inevitably going to occur in the short-term future. “So,” Rupert explained, “we had engineered with others so that fiction would become fact. In reality all that was happening was that fiction was being used as a device to lift people’s awareness so that when the facts occurred in their real lives, they would absorb and accept, as unpalatable as it may be, the reality. In other words, unacceptable reality would become familiar to them. They would have internalised it as part of their life, when it really did occur”.

There is reference on the consumer side to vehicles very much like human automobiles, also to scooters which work under water for the benefit of transportation of the dolphins. But with these consumer articles come the tonic sticks which are the drugs of the meeowies youth.

All society starts a downward spiral; cats and primates in particular are affected.
The ingenuity of the primates is exemplified when they are able to unleash an invention that will reverse the effects of AARDVARK.

Terrorism strafes society at all levels until finally the dolphins are able to unleash one last great battle for a new world order. So strong are the forces of social engineering, they even work on a trans-species basis. And even more powerfully, as is quoted above, fiction becomes fact.

The point to be made from the analysis of this chapter is that social engineering is common in many novels, and not unexpected in either Sci-Fi or En-Fi, which are essentially discourses about engineering and science and their impact on individuals and society. The concept of design that underlies engineering is thus going to be evident in social engineering in En-Fi.

3.4 Engineering in “Pie Square”

The second novel by d’ettut is a story of a quite remarkable fast food chain. It rapidly spreads around the world creating incredible wealth for its owners. It supplies not only sustenance for the body but for the mind and spirit too. Its all enveloping philosophies mould the youth of the world for an impending revolution which could turn global society upside down. Youth is examined in terms of how its exploited and of its wasted potential and how its early experiences affect later life. “Pie Square” (d’ettut 2000) is an experiment in literature in terms of its form. There are three discrete sections.

Part one is the reminiscences which are really a series of memories by the fictional character Dr.Carl Olde. Part two, the Epiphanies is a detailed description of the construction of the fast food chain. This goes into quite specific detail in terms of design. Part three, the last part is called the Rhapsodies. This in fact is an epistolary with a series of letters coming from the mysterious Teforp and an allusion to some further activities that he would involve himself in.

“Pie Square” (d’ettut 2000) is the second in a retrospectively constructed trilogy. The first of the trilogy, “Greenwars” (d’ettut 1998), has already been
described and actually sees the death of Teforp. The chronologically first in the trilogy, “Amber Reins Fall”, put third in order of writing, is about to be constructed as part of this thesis.

There will be more on this unusual approach later on, but for the moment the focus is on the engineering aspects of “Pie Square” (d’ettut 2000).

The character, Adam Teforp is introduced very early in the novel (page 21). Teforp’s formative years (already mentioned) are described in details in “Amber Reins Fall”. By page 23 Teforp is talking about the Omega point, a concept developed by de Chardin. The allusion is intended by the author to emphasise mass consumption. De Chardin suggests that in the long term future humanity will convert all available mass and energy into information. At this point humanity will know all that could be known and would collectively become God.

The next two chapters in “Pie Square” are the Reminiscences and not much happens from an engineering perspective.

Chapter four describes some concepts taken from light engineering. The author speaks of his father being involved in the manufacturing of coin-operated pool tables and their introduction to the UK. However not much detail is provided from an engineering perspective. (However in the third novel “Amber Reins Fall”, more detail on this period is revealed.)

Its not until we enter the Epiphanies that the “formula for commercial success” is laid out for the reader (page 92). Teforp clearly articulates a marketing plan to launch his envisaged fast food chain called Pie Square (d’ettut 2000). The fast food operations in terms of product types and equipment are clearly described (page 104). Also on page 105 quite clear descriptions are given on how the décor, at least initially, is conceived.
The description, extended to include the entertainment component carries through to page 118. Various techniques for encouraging youth to use the interactive video machines comes to a head on page 125.

The social aspects associated with these video machines is also clearly described. Teforp puts forward a variety of arguments for how the chain of fast food outlets linked to interactive video machines, will be a positive contribution to society. He says on page 129 “We will lead, we will provide models; models that most parents can’t be bothered to provide these days. Models that are provided by television are a substitute for parents. But we will go a lot further. A lot, lot further. Our morality models will be for good behaviour, not bad behaviour, as television programs seem so determined to do. It will be a crusade, no, a quest that will harness the energy of youth in a positive way”. Social engineering aspects associated with Teforp goes on.

“One last thing I must add, Carl, is that my dissatisfaction with the ‘team aspect’ of the video games has forced me into an invention that I believe will be revolutionary.

As you know I am not a computer expert, but I understand the fundamentals. What I have designed, and one of the leading video makers is researching it right now, is the ‘mega-machine’. I envisaged what would be the ideal situation for our store and then worked retrospectively.

If you think about it, wall photo murals, models, and all that are terribly hackneyed as decor devices. What we need is a dynamic, interactive and futuristic display that covers entire walls, like a giant video screen. On most occasions this display would depict breathtaking scenes in outer space. The videos would be made of real film footage from NASA, with some animation edited in to create real mystery and colour.

The interior of Pie Square will be somewhere in the future, floating in space. The more walls that are covered like this, the more realistic the impression. If it were possible to create the same effect on the ceiling that surrounds the
undercarriage of our space vehicle, all the better. Customers will feel as though they are lost in the cosmos, with an alien, or perhaps not alien, spacecraft hovering over their heads.”

Teforp was flushed with the excitement of having expanded his consciousness. He raced on.

“There is one more level in the interaction between décor and machine; and this is the most exquisite aspect of the entire plan. In a few days I will know if my design will work. The greatest involvement we could hope for on a team basis is for groups of children to have control of whole scenes. To be able to combine elements individually and to aggregate their effect, one team against another, will be the zenith of stimulation. Numerical and verbal skills can be incorporated into these scenarios.

Can you see it all Carl? Forces of the Federation of the Planetary Empires vying for cosmic superiority over the Galactic Anarchists. This could be structured as the ultimate hybrid of war games and chess. Rapid calculations will need to be made, team spirit fostered, communication skills maximised.

‘Why don’t you use virtual reality helmets and equipment’ I asked.

His reply was fast. ‘Maybe in the second generation of stores we can look at something like that. But at this stage I really believe that we want our people to physically interact. I think that strapping them into helmets would not only be expensive but it will remove the whole team element that we are trying to create.

These virtual reality helmets tend to isolate people. We want them to communicate with each other. Communication is the basis for building teams. The helmets do the opposite.

If we wished to perpetrate an intergalactic pacifist philosophy our scenarios could be natural cosmic disasters. Starting at the level of weighing up the
effects on individuals, then cities, then nations, and then worlds, our heroes could locate appropriate natural resources, putting together creative solutions, and effecting plans to save the universe. We would create the greatest subculture full of lateral thinkers and macro-problem solvers the world has ever experienced. Interpersonal skills would have been well tuned for a team to be successful in these closely fought battles.’

‘The store in the finished form,’ Teforp started again, ‘would have the finest elements of Disneyland, would take fantasy and escapism to extremes, and yet let the supporters of this great dream actually interact with their fantasy’.

Teforp does become quite specific in his design.

“Its so surprisingly simple in theory,” he started in a professional tone. ‘Imagine a matrix of tiles covering an entire wall. Each tile is a small section of a video screen.

Each unit of the matrix is electronically connected to a micro-processor which distributes the pattern of the whole image over the entire matrix screen, but instead of the picture being composed of microscopic dots, its made up of these tiles. Soon the flat screen will be sold to households replacing bulky television cabinets. Hang ‘em on the wall like a huge painting.

By using the tile system, and varying the sizes, its possible to create an image on a curved section of ceiling or wall or even sphere. However, for our purposes flat surfaces are all we need.’

Social engineering is re-introduced about half way through the book in Chapter four of the Epiphanies. Litter and the public’s adverse feelings towards it seems a problem so Teforp comes out with a solution. Quite simply he creates a lottery for litter called a ‘littery’. Of course one could argue this aspect of social engineering is not related to engineering per se. But its! The littery concept (watch the pun) is contingent upon success of the Pie Square chain.
Whilst not a lot more is added to innovative design aspects of the store the remaining pages do have components where there are quite specific descriptions of the store’s interior.

On page 165 Dr.Olde says “Through the windows the store’s enticing décor beckoned all to enter. At night this was especially so. “Pie Square” was alight, like a giant oriental lamp. With intricate colourful designs it lured moths from afar to explore its rich colourful center. We could see clearly inside now, the hero of the day, our Fryer Tuck, and a few of his new found fellow travellers in time and space, increased the sparkle of the interior with energetic flourishes. On three walls random scenes of the cosmos were floating past, their reflections shimmering on the brightly hued cobblestones of the floor. An alluring lambency seemed to exude from the translucent furniture. The tables and chairs were made of an almost transparent glossy glassy substance that had in some cases a soft pink tint. In other this was purple, or lime green. The glistening chrome that further festooned the magic lantern magnified the effects of an exotic artist’s jumbled palate of beauty.

Social engineering is used again. Tefrop uses the medium of a television interview to get across a lot of the principles he wishes to incorporate into the fast food chain. He creates avuncular characters who are the minders of the youth who frequent the stores. He makes frequent reference to the lessening of discernment between good and evil in today’s society and creates a new character who is the epitome of chivalry. He measures the way his fast-food stores and the “games” lead to “good” behaviour by youth.

In fact one further device used by the writer is the “novel written within the novel”.

This is the writing of an eponymous book called “Pie Square” that is intended to promote the store’s existence with maximum impact. All these aspects of social engineering still rely on the initial “interactive fast food store” invention.
Later chapters go on to describe in detail how the chain expands over Europe and then finally to the United States. The final chapters are incorporated into the Rhapsodies which are written, as mentioned earlier as an epistolary. Teforp has disappeared and his only contact with Carl Olde is through the letters that stream from various parts of the world. Teforp is critical of sub-division and the mundane aspects of modern buildings. He talks of the modern creations of “rurban” life which is based on high speed commuting to new towns built in the outback of Australia. These towns are very fantasy oriented. For those who live in them they can choose the theme in which they feel most relaxed. On page 273 he starts to talk of macro engineering. He alludes to the harvesting of the Nullarbor desert with sunflowers and the rich pure oil flowing from those plants being a fuel source for automobiles. He looks at alternative energy sources like windmills and solar generators and also the harvesting of icebergs from the South Pole.

In the last few pages of the book Teforp descends to a form of psychosis. Ultimately he decides to run a space lottery and even indicates larger projects. In fact the larger projects alluded to are AARDVARK described in the first written of the trilogy, the book “Greenwars” (d’ettut 1998); but chronologically is the third and final novel. Of course AARDVARK is the ultimate engineering intervention. Here is a device that enables animals to speak in human language. The history of AARDVARK is quite well documented in the novel to make it credible. It starts as an invention which assists those people who have been badly injured; especially with head injuries; in automobile and other accidents. The device evolved over a period of time. The technology, as described in the novel, supports the greater literary purpose of describing any intelligent species’ inability to cope socially with the faster evolution of technology.

3.5 Engineering in “Vampire Cities”

In d’ettut’s (the author’s) third novel “Vampire Cities” (and no connection to the trilogy featuring Adam Teforp) Anderson had some extraordinary visitations. Outside of Las Vegas he is asked to find the city of light and is
given an artefact of incredible power. Its like a musician’s baton but it has remarkable powers. Again this is a engineering invention that is well described to give credibility to the storyline. This is explained in terms of nano-technology in the quotes below.

“The being moved away from the boulder he was leaning on and took from his pocket something that looked a little like a car antenna that had been folded down.

He twisted one end of it and not only did it extend in length but it also increased in width. All of the moving parts then seemed to fuse into one large instrument which looked remarkably like a conductor’s baton. In fact, the being grasped it like a maestro might. He didn’t push his hair back over his head but when he raised the baton a soft green light emanated from the black baton as though the light was passing between the black molecules of the outer casing. He raised his right hand, grasped the baton a little higher and waved it around the boulder he had been reclining upon. To Anderson it was like a solid piece of music had appeared from nowhere. It was as though the very best of stereo systems, thousands of speakers, permeated the desert air.

Anderson searched for the hidden speakers. Nothing was evident. The music was monumental. It was the music of the essence of this rock. It was truly spectacular. It was the rock. Pure synesthesia. He could hear the music of this boulder. Then the being moved away from the rock towards a small patch of vegetation. Again he raised his hand and passed it over the little desert plant. Soft, sensitive, simple notes came tumbling from the air around him. This simple, sweet piece was the essence of the plant. He then moved his wand away. He walked twenty or thirty meters towards Anderson’s car and again, this time in a far more dramatic movement, waved the baton over the entire length of the car. The most amazing tune filled the desert air.
This was the music of machinery. Animation of power. Of exhilaration and acceleration. It was the music of manufacturing. It was the music of human endeavour. It was the music of human pride. It was the music of colour and speed.

‘Listen to it,’ said the being. ‘It can make everybody in the universe a musician. One simply takes the baton, thinks music and waves it over the topic area. Each time you can record for perpetuity, and replay pieces you like. Its all associated with the small switch at the bottom of the baton.’

The music of the vehicle stopped. The being lifted the wand so that Anderson could see its end. He saw a small calibrated button.

‘See, click it once and it will record forever music that was just created. Move it two clicks and it will play it back anytime you like. You could become one of the most wondrous of musicians on this planet.’

Anderson asks ‘How does this thing work?’

And here is the reply.

‘Think of your nano-technology and think of the very best of space technology,’ said the being. ‘Extrapolate these new technologies a long way into the future, say one hundred years. Better still, think of your moon’s surface covered with the highest technology gear that you can conceive of. yes that’s right, the entire moon’s surface.

Then move the moon a thousand times closer to the earth than its. Put it in orbit about two hundred and fifty miles up. Then shrink the whole thing literally to the size of a pea. Now if you can hold that concept you have a bit of an understanding of some of the secrets behind the baton. The speaker system works by making individual molecules in the air into highly effective speakers. That is about as much as I am prepared to give away at this stage’.
This is a detailed description of a technology far in advance of that which exists currently; but its still put in understandable terms to add credibility to the storyline.

3.6 Science Fiction and the Novels of d’ettut

As the novelist who put together “Greenwars” (d’ettut 1998) and “Pie Square” (d’ettut 2000) and, unrelated to the trilogy, also Vampire Cities (d’ettut 2000), I would maintain that these are not science fiction novels.

Indeed the décor and video machines of the fast food chain in “Pie Square” (d’ettut 2000), AARDVARK in “Greenwars” (d’ettut 1998) and the magical baton in “Vampire Cities” are just techniques to tell a story. (But perhaps the same argument would hold for some, or even most science fiction). They are devices to highlight critical aspects of human behaviour in society. The devices themselves should not be taken too seriously.

The genre for science fiction is full of inventions. Primarily these are fantastic elaborations upon technology that are usually the result of a “mad scientist” developing some almost incredible machine to achieve almost equally incredible ends. Jules Verne was one of the first to speculate on tremendous advances in engineering with such things as the ostensibly nuclear powered submarine in “Twenty Thousand Leagues Under The Sea”. This has already been discussed in Section 2.7 (and also Appendix 1).

This chapter 3 is important in that it moves from describing the engineer as a character in fiction; that is in early western fiction, in later western fiction, in European fiction and in Australian fiction to the fiction as created by the author of this thesis. It also reinforces the difference between Sci-Fi and En-Fi, as constructed by d’ettut. Its hoped the case has been strong enough, as mentioned, that the technology inputs into the novels of d’ettut, whilst they may appear to be somewhat set in a near future are not so fantastic as to be
construed as science fiction. In the main, all these novels are planted in present society or one that is very near.

The next chapter of this thesis describes in detail how the En-Fi novel “Amber Reins Fall” has been constructed to strongly support the notion that En-Fi is different to Sci-Fi; and that in particular the novelist does not need to be an engineering expert or to be trained in engineering or to indeed be a professional engineer to write with engineering credibility. In fact, the engineering constructs within Chapter 4, that are necessary to augment the storyline, are even less in the realm of science fiction than any of the other three novels by d’ettut; and in particular the two that feature Adam Teforp as a central character.

It’s important to understand, as mentioned earlier, that “Amber Reins Fall” chronologically lies as the first of the trilogy; although it was written last. This implies, one hopes, that “Amber Reins Fall” is planted even more in present society (and in fact starts in the late 1950’s) than the later novels which move into a near future where perhaps more radical technologies could be the case.

But to support the argument of this thesis, “Amber Reins Fall” is quite deliberately created in the “here and now” using engineering contexts of several kind, starting with a light engineering factory; then through the notion of a specially constructed conference centre to finally nuclear disposal. All constructs are specifically not science fiction or Sci-Fi.

Chapter 4 should convincingly describe why the thesis fiction “Amber Reins Fall” has been created to support the thesis.
4.0 “Amber Reins Fall”: Constructing Engineering Fiction (En-Fi) In Detail

The question this thesis seeks to examine is “can the fiction writer present with credibility, engineering notions although he or she is untrained in these areas”? The novel accompanying this text is an attempt to do this. The novel should be read at this point.

The novel covers several engineering perspectives. For example three “eras” will be considered, apart from the obvious engineering component in the “Panama incident”.

Firstly there will be a description of the 1950’s and 1960’s light engineering that existed at that time in Australia. Secondly, using the same anti-hero but at a later stage of his development, the novel will look at a specific construction project. Finally, a planned “politically incorrect” project will be looked at that is gaining increasing importance in our present debate on climate change and means of addressing it.

The one central character, Adam Teforp holds the threads of the novel together. He reflects the morality of the 1950’s and 60’s, and the late 70’s, in terms of government controls, with emphasis on materialism and entrepreneurism.

Three technical aspects of engineering, particularly to do with construction, are examined. In the first early period of the 1950’s the emphasis is on the small emerging backyard entrepreneur. The second emphasises developing an innovative approach to a “learning” society. The third and final is a radical
and definitive approach to the environmental movement (nuclear waste disposal)

Much imagery, especially in the early pages, is built up of the “rusty red” associated with decaying, temporary metal factories, the deserts of Australia’s interior, the rawness of a new life in a new country and impending nuclear holocaust. The desert-red scenes symbolise isolation, destruction and despair but also finally, inspiration and penance. The engineering components start with a young family arriving from the United Kingdom in the early 1950’s. Peter begins the novel with an obsession with a factory he has built on the site of an Italian market garden, now buried deep beneath concrete and rusted steel. Early in life Adam Teforp, his son, is drawn to the mad, tarnished world of the factory. Work ethic for the father becomes an obsession which eventually degenerates into debauchery. Adam is tarnished for life by the experiences described in this novel. This psychological tarnishment is particularly reflected in the two later novels, “Pie Square” (d’ettut 2000) and “Greenwar”s (d’ettut 1998), Adam escapes from the factory’s madness and discovers a world in which he can become extraordinarily wealthy. Adam’s opposition to his father’s behaviour is reflected in the sensitive compassion of a homosexual friend whose own labour of love is the development of the ultimate “self help” book.

Social engineering is introduced. It would appear that Teforp is on a good thing when he revamps, in a concrete form, the writings of his homosexual friend and develops “citadels of wisdom”, (The Thinking Factory) which are retreats for critical and reflective thinking,

The development of these thinking retreats is described in detail with many associated engineering problems. Finally his compromise is the very earth in which he pollutes with the storage of nuclear waste. This pollution, constrained as its, not only foretells of his future wealth and success gained at the expense of others but also of a higher order corruption in society and of course in his own family. Forthwith is the chapter by chapter description of how “Amber Reins Fall” is developed.
4.1 Chapter 1: Dawn on a Summer Holiday

The first page of the opening chapter demonstrates to the reader that the simple act of rezoning can transform lush market garden areas into greater wealth by allowing the construction of light engineering factories.

On page 7 Adam’s father even waxes poetical about his light engineering factory “Soon the sparks of my welders will paint my canvas here.” He pointed to the dark chasm at the back of his tin shrine. “Many a new symphony will be composed by that guillotine, and the bender. And what about the grinder and the router? Oho, they’ll add some pretty notes to my great composition. Have you ever heard the sweet music of my lathe or the planer.

No, you’ve heard nothing when you listen to that poofa Mozart.

He dragged Adam over to a long narrow bath. At each end was an upright column with a large wheel attached to the top. With a flick of a switch he started an invisible motor that rattled into life. The wheels turned and groaned. A new episode in production line painting had begun. Looking like a miniature cable car, a wire belt moved with the slowly rotating wheels.

Frail, tatty looking hooks made of rusty wire hung down. Attached to them were metallic devices which looked as uninteresting as anything possibly could that consists of two flat pieces of steel separated by a four inch welded hollow cylinder.

Slowly these boring little baubles, already freckled with rust even though seemingly new-born, bounced along the tightrope, swinging precariously. By means of an ingenious pulley located near each slowly rotating wheel, the pristine loads would dip down and down, still moving laterally, until they plunged into the thick black porridge of paint. Tenaciously the wheels kept pulling the loads along their way until another pulley whisked them up into the
air again. The black gleaming masterpieces now began their final journey. Like in some weird ritual of a lazy nation that likes basting itself in the sun, in the most indolent ways, the little metallic lumps were exposed, first to blasts of warm air, and then to a volley of artificial sun light, burning out from the fierce lamps. After running this bizarre gauntlet the whole process looked as though it would be re-started."

On page 9 Adam realises that his father is relentless in his desire to expand the factory.

“He looked at the mounds of sand half flattened by the flapping trapdoor of the lorry that had delivered the loads. He contemplating his days work to come. Those little hills all had to be smashed, flattened, pummelled, crushed, and levelled to make way for an icing of concrete that would seal out forever the rest of the universe from the black clay below. No more would life sprout out from the moist sticky morass that used to offer crisp harvests and colour, harmony and gentle silence.

He backed up his Volkswagen again, and following the furrows made by the truck dumping the sand, built up speed. His car slammed into yet another wall. Rusty coloured particles spattered everywhere as the engine screamed. His continual attacks very slowly reduced the undulations to a smooth red carpet, ready for its final crusting.”

Many sections in Chapter 1 relate to various aspects of engineering. Wining and dining with other captains of industry and especially bank managers was perceived to be important. Underlining this was the assumption that building approvals and funding for various projects were much easier to get in those days compared to fifty years later.

Peter’s experiences in the war provided him with memories of the Italian and indeed even the Roman life. When money was around Italians knew how to design and build.
On Page 14 “These Australian Italians were already living in houses with enormous glossy terrazzo porches with columns that obviously reminded them of the might of Rome”. But Rome also represents decay, debauchery and selfishness.

Notions of occupational health and safety creep into the story in this very first chapter.

Page 16 “Adam ran the risk of jamming his fingers between sharp pieces of metal as he crammed on countless hundreds of box-like covers to encase the brain of this new machine of fortune. In fact, the instrument was a device for vibrating the hundreds of tons of lard that hung off the elderly and under-exercised around Adelaide. These “massagers” were all the rage with gross ladies. They really believed that by rattling their bodies with frenetic bursts from a whirring strap, pounds of fat would drop off. With the depths of boredom that made time stand still Adam fumbled with the little switches, and forced on the covers.”

On Page 17 there are further safety issues “Adam could see this was not altogether untrue. If he held the spray gun in any one place for more than an instant, runs would appear everywhere. He had to keep the gun on the move. Nobody else wanted this job because the booth was unbearably hot. When he had watched the others at work he noticed they wore their jeans only; no T-shirts or anything else. They didn’t use masks either, these useless articles had been lost a long time ago. Probably they were buried in the foot or so of sawdust that covered many parts of the factory floor like a thick grey mantle; dust was mixed with this soft essence of sawn tree.

Also his father’s desire to compromise safety for profitability is stated on page 17 ‘Unfortunately the extractor is not working, so watch out for the fumes, they can build up pretty quickly and your goggles will be blurred; then you won’t see the runs.

*Its best not to wear the goggles. The other guys don’t!’*
As he pressed the trigger a fine spray of condensed void formed in a cloud to coat the wooden panels. The compressor throbbed away like the heart of some primeval creature and forced the black liquid through the long, snaking lines until it finished its journey with a long sibilance.

Adam found it particularly hard to breathe in the booth. It has always been difficult enough to get fresh air in the rest of the factory, where a fine suspension of sawdust and slate dust perpetually hung in a smoky gloom, But in this chamber it was almost impossible. After a few hours of inhaling the evil blackness that billowed out Adam found he could pick large lumps of mucous, thick and sticky like pitch, from his nose.

To his alarm he also discovered his chest rattled a lot and he could bring up thick globs of phlegm, that looked like coke.”

Peter had some notion of supervision and in fact he had constructed himself a mezzanine office.

“This precarious entrance had been economically constructed from timber off-cuts, and while looking a little rickety and taking the skill of a mountain goat to climb, had a certain grandeur. Certainly the mezzanine office afforded a lordly view over the rabble below.

The office presided over the factory, and its lessons in frugality were an example to all. Its walls had been hastily constructed with the thinnest of materials, and then wallpapered in a most efficient manner with the cheapest of papers. The floor, created from scraps of flat metal had been carpeted with stained shag pile rescued from Gaynor as she remodelled their house. The desk and shelves all belied their origins. They were in fact built from factory scraps, given a new existence by a Cinderella process.

The entire cubicle was drowned with business. There were invoices and receipts, cancelled cheques and registration forms. There were patent
applications and insurance forms, blue prints for new ideas and taxation
documents. Here were the entrails of his industry, disgorged in one great
mess; in parts feet thick, in other places only scattered thinly. Some piles had
been untouched, it seemed for centuries, the thick sediment of dust sealing in
secrets, mummifying mysteries of this place.

On Page 29 another perspective is given of the factory of Peter's, this time
through his brother's eyes “the mental picture he had drawn for himself was
of a respectable factory, possibly an acre or so in area, with a properly
serrated roof and at least some brick walls. He had expected, like on some of
the industrial estates of England and Canada, to find a properly sealed
car park, some trees and flowers softening the harshness of industry, and
maybe a small fleet of brightly coloured vans, forklifts, and other service
vehicles parked outside.

But here was a shanty town of corrugated iron, gasoline drums and piles of
broken wood, all spattered with rust and paint of a myriad hues. The lawned
moat he had imagined was a sea of rubble and sand. Carcasses of half-
stripped cannibalised machines were the bizarre pieces of sculpture that
adorned the car park.

With a ghoulish wail of machinery tearing at his ears, George cautiously
followed Peter around, trying to avoid tripping over bundles of sharp mangled
steel and ducking his head, lest he lose an eye to a shaft of thin wire lying in
wait.”

So, in summary, Chapter 1 relates to various aspects of light engineering or
light manufacturing. A detailed description has been given of particular
pieces of machinery, much of which the father of the protagonist (the
protagonist is Adam Teforp), has designed from scratch. Various
occupational health and safety issues are alluded to; an important aspect of
engineering particularly within the manufacturing context of engineering.
The point to be made here is that in this very first chapter the author is attempting to create a strong image of industry and engineering against the backdrop of hot South Australian summers.

### 4.2 Chapter 2: A Mother’s Search for Myths

In chapter two of the novel, there is only brief mention of engineering concepts. Gaynor made her own observations and assumptions about the factory and what it really means. She can see the connection between the darkness and dampness of his factory and the increase of the pitch of his voice “It had become shrill. Was it the violence he subjected his vocal cords to when he blasphemed so loudly at the factory, or was it the noxious, evil fumes that had bubbled up from the seething cauldrons that littered his factory”. (page 38)

On page 40 she protests in one of her rare appearances at the factory. “She knew and almost appreciated the mysterious workings were somehow responsible for increasing her wealthier lifestyle. But, also she blamed the infernal machinery in its belly for the anguish in her marriage, for her bellicose husband, for her errant son. In the earlier days Peter had regarded his factory in much the same way an artist does his creation, and a scientist does a well researched experiment.

But now it had become a sump for all his affections, his behaviours, his ideas. It drained everything from him, and left him only as an agent for its ghastly deed against nature and society.”

Chapter 2 sees Adam begin his long series of premonitions about nuclear demise.

On page 50 “His mind was full of colour and dreams, flickering images and wild prophetic visions. The crimson catharsis of fire, the cleansing holocaust,
the purging of the world’s wicked met him at every corner.” Of course nuclear extinction is based upon the ultimate engineering feat; the ultimate invention.

And on page 50 “An electric thrill of fear with a deeper, new, undefined feeling would pour into his spread-eagled frame as fountains of flame from the other side of the horizon ascended to the sun. Great red mushrooms would be silhouetted along the shoulder of the sea and Adam would know Armageddon was here.

Emotions aroused by visions of his own death were as nothing compared to the knowledge that would flow through his stomach from the low rumbling ground immediately beneath him. He was being flooded with that once-in-an-eternity revelation when, wondrously, one of a species is privy to its own extinction.”

The author here is beginning to paint a picture of a nuclear Armageddon (something that was particularly topical at the time of the setting of the story). These illusions are followed up later when the whole issue of nuclear waste disposal is written about. Again the author is starting the process of building engineering credibility, albeit the nuclear engineering component does not come in until the very last chapters of the book. But indeed there is nothing of a science fiction nature here. All the technology and engineering described lives in that period of time in the late 1960’s and early 1970’s.

4.3 Chapter 3: Party for 69

Chapter 3 of “Amber Reins Fall” is a prelude to the development of Teforp’s mature character and a precursor to his behaviors, not only in “Amber Reins Fall” (which really describes his formative years) but also for “Greenwars” (d’ettut 1998) and “Pie Square” (d’ettut 2000). In this context social engineering is important. Social engineering, already covered in part in Section 3.2, is described in further detail below to give the reader some points of reference. However the reason for the introduction of it in “Amber Reins Fall” is to emphasise (either directly or indirectly within the plot of the
book) the fact that a particular invention or building concept, for example The Thinking Factory in “Amber Reins Fall” (d’ettut 2000) or the factory of his father in Chapter 1; or indeed even the engineering associated with the disposal of nuclear waste, can have tremendous political/social implications. The reason for the inclusion of this in this novel is that the author is trying to write an En-Fi rather than a Sci-Fi novel, although it could be argued that Sci-Fi novels on many occasions also include significant social engineering components.

Social engineering has such a broad definitional base that its difficult to define it clearly within the context of this thesis. Section 3.2 gave some general definitions of social engineering but did not talk about it in its broader civil context. For example Lee Kwan Yu, the prime minister of Singapore for many years was regarded as one of the greatest proponents of social engineering. His policies and ideals were reflected in the way in which Singapore evolved as a modern city. In many respects some of the aspects of his policies reflected what many considered to be drastic measures. These included compulsory hair cutting for males who visited the country (and obviously for the local population). Hair had to be a prescribed length. The penalties for such things as graffiti and littering were extraordinarily harsh; but arguably had the affect of containing those socially unacceptable activities. Even at the personal level, by banning chewing gum, the effects of social engineering were felt by everyone.

In South Africa. Johannesburg has been considered a city that reflected nearly a century of racially driven social engineering. This reached a climax under apartheid; this was the system of racial segregation that was facilitated throughout South Africa for nearly half a century (1948 -1994). The results for this sort of social engineering, unlike that for Singapore which created a wealthy middle class, resulted in a city of extraordinary contrast. There were glass and steel skyscrapers opposed to dirty and unhygienic shanty towns. There were internationally recognized universities and wide spread illiteracy. There was an abundance of wealth next to desperate poverty.
As a final example, education in the Ukraine could be looked at in terms of social engineering. In 1917 more than 70% of the Ukraine’s population was illiterate. Within fifty years the Soviet’s policy of compulsive education wiped out illiteracy in the younger generation. Virtually the entire adult population now can read and write. Under the extensive system of higher education, including universities and scientific organisations such as the Academy of the Sciences, research and learning progressed phenomenally throughout the Soviet period. Social engineering was very much behind this emphasis on education. One of the goals of social engineering called “Russification”, reflected Stalin’s purges of the 1930's. This meant emphasis on the Russian language, Russian culture and the Russian way of doing things.

So what relevance does this have for chapter 3 of the novel. In the first instance Adam Teforp later becomes a gifted monologist (a manipulator as described by social engineering). At this early stage in his life, he wishes to emulate two people, one of which is John, a dissipated hippie and Fabian, a person who is destined to anticipate the world rush to self help literature. In the second instance we have references to Don Dunstan, a premier (and social engineer) in South Australia in the 1960’s. In both instances we have examples of social engineering at the civil level.

We should take a step back here and consider the legacy of social effects resulting from engineering inventions, concepts, or acts, for example the atomic bomb and its use. We should consider the profound implications when an engineering concept is deliberately introduced and knowingly done so to have a specific social effect. This is only introduced in the subtle way in “Amber Reins Falls”. However the social effects become more profound as time goes by and especially as the novels and Teforps character evolve. Teforp’s introduction of the interactive videos is a further step. This is found in “Greenwars” (d’ettut 1998). Finally AARDVARK in “Greenwars”, and the tremendous effects it has on several species at a global level, has to be considered.
The references to Armstrong on the moon have a later impact in “Pie Square” (d’ettut 2000) when Teforp devises a space lottery. He has a vision, under the influence of alcohol and drugs, of landing on the moon and of traveling through space. This is also reflected in some marketing ideas he has later in his life in “Pie Square” (d’ettut 2000). So to understand “Amber Reins Fall” it must be appreciated that it’s a prelude for two further books in the trilogy and is written to describe the formative years of Teforp’s life.

In “Pie Square” (d’ettut 2000) Teforp has already become a talented monologist. The opening of the book, in the Reminiscences, has Teforp appearing as a quite sophisticated, if not conceited, speaker. So John in “Amber Reins Fall” (a central character for a while) does have an influence on Teforp. He talks very much about trends related to the baby boomers and makes predictions about what the effect of the baby boomers will be in the 1970’s, 80’s and 90’s when they are in their 30’s, 40’s and 50’s. John talks about the baby boomer bulge. Teforp listens to John’s other descriptions on how successful individuals should live moving from “individual ego to family and then from family to group” and then “to move on from groups to large collections of groups like communities and then onto a nation and then world”. The analogy John uses in terms of his incipient social engineering is in fact drawn from the construction industry (further engineering contexts). He talks of a house design and how only the architect and owner are aware of the “big picture”, and the inter-relationships between all of the components such as plumbing, brick laying and so forth.

When he runs into his next-door-neighbour, Fabian, and starts listening to him, Teforp realizes he would like to emulate the sorts of ramblings that these people could effect. “Fabian quickly moved into a monologue. Adam was impressed and even envious. Everyone seemed to have the art of the monologue like John.” (page 63)

And then Fabian, almost as an act of deja vu, started also to talk about certain professions and there being a transience of life and not understanding the bigger picture. Fabian was very critical of the individual parts working
against each other in society. He again used words similar to John’s of componentry. He emphasized lack of unification.

Fabian’s homosexuality is a device used by the author to emphasis his sensibility. In fact Fabian’s reaction against what might have been accepted in the late 60’s as “the right way to behave if you were homosexual” insinuates his social sensitivity. This is a prelude to Teforp’s social sensitivity, to be realized in the creation of his fast food chain in Pie Square (d’ettut 2000).

Adam himself makes reference to Don Dunstan, a labor premier in South Australia in the late 60’s, who qualifies as a social engineer in terms of some of the quite radical social policy initiatives he undertook at the time.

Adam goes on to describe how his life has become flat in his early twenties. He is becoming bored with university and Vietnam demonstrations. This also is a prelude to some of the ideas that Teforp has much later in his life and is reflected in some of his major projects.

The story then goes back to Fabian for the last section of chapter 3. He alludes to Dale Carnegie and the fact that he (Fabian) has written a book which is a formula for family life, community life and national life and indeed is the first of the “self help books” that might well become prevalent in later years. The final part of chapter 3 alludes to certain aspects of the manuscript, which at this stage Adam has not seen. Adam promises to read it and at the end of the chapter picks it up and puts it to one side.

So Chapter 3 is significantly using social engineering as a device to link plot, politics, personalities and emotions to the hard side of engineering such as is found in nuclear engineering, civil engineering, mechanical engineering, etc.
4.4 Chapter 4: Suicide and Self Help

“It was two weeks and Adam still hadn’t gotten around to reading the manuscript, he felt a pang of guilt” (page 71). Adam is aroused by his father and has been told that Fabian has committed suicide. This drives Adam to a reading of the manuscript, “Winning life” that had been given to him by Fabian. (The self-help book is Teforp’s strongest introduction to social engineering).

It's the intention of chapter 4 to draft the basis for Teforp’s actions, attitudes and beliefs in the rest of “Amber Reins Fall” and the later novels. It’s the formula that, over a brief period of time, changes the solipsistic Adam into a more thoughtful, if not eccentric, part-mystic part-super entrepreneur. It’s also the unrolling of the “social engineering” context, but all based upon specific engineering/design events.

The structure of the book (within the novel) is discussed. This shows how fastidious Fabian has been in putting together its foundation. As Fabian the author says “This book is very much an experiment in what I call ‘participative literature’. As well as being an experiment its intended this book will form a framework for any individual drafting a winning game plan for the exploitation of the greatest asset they have - their life. The book is for them to help themselves”. (page 73)

Fabian then goes on to describe certain stages the individual must go through to fully realize their individual potential. He begins by suggesting the reader (the learner) have a cosmology. This again becomes apparent as an integral part of Teforp’s life in Pie Square (d’ettut 2000). This notion of embracing a cosmology, whether its valid or not, is a constant theme in Teforp’s life.

Then Fabian, as the author of the book within the book, describes the concepts of time. He describes how to escape the tyranny of time. He then goes on to emphasise the importance of concentrating on the “now”. He then
talks of the ego and the formula for creating the healthy ego. This is where social engineering becomes explicit. He talks of how the individual human should have fluency in one of the arts, in a vocational interest and a sport. Thus he talks of the physical, the creative and vocational areas and the infinite mix of the three that can create the notion of uniqueness within the individual. He contrasts this to the cult of the individual and individual rights in his contemporary society.

Fabian then goes on to talk about the basic function of the family and how the “winner” (that is the person who absorbs the advice of this self-help book draft) needs to accept both family membership and responsibilities and to use the family as a stability point. He then talks about the failure of feminism and family and government, not in a particularly positive way. He expands upon family sanctity, family myths and important aspects and responsibilities of parenting.

He goes on to talk about the “winner” as having a notion of good and evil. He describes this in terms of “barbarians” and “saints”. This notion will have a powerful effect on the way Teforp goes on to develop his approach towards life and to carry out the projects that he becomes involved in. Fabian’s notions of interpersonal relationships and the three greatest problems are reflected in “Greenwars” (d’ettut 1998) as one subplot. In fact much of what Fabian is talking about here affects how Teforp ultimately affects the animal communities in “Greenwars” (d’ettut 1998).

Fabian talks about the work place. This is reflected later in Teforp’s high work ethic. He also talks of the role of the individual within the context of nationalism; and the context of nationalism being good (in one sense). In the same breath he goes on to talk about internationalism and the individual’s role in that context. This is clearly reflected in later aspects of “Amber Reins Fall” and “Pie Square” (d’ettut 2000).

The final section has Fabian talking a lot about death which in many respects explains his own imminent suicide which has obviously taken place shortly
after the completion of the manuscript. Death and the notion of immortality/timeliness is something Teforp reflects upon a lot. Certainly the new moral code that is the summary of the self help book is reflected in Teforp’s development, shortly into the future.

Chapters 3 and 4 are specifically “set up” for Teforp’s later development. They constitute the crisis point in his life, particularly chapter 4, that then “engineer” his later actions. Its when Teforp moves to the next stage of his life and then invents the interactive videos in “Pie Square” (d’ettut 2000) where he tries to influence the moral behaviour of a whole generation of youth; when he invents AARDVARK; he is translating into real life inventions, feelings, emotions and attitudes that have evolved from his social engineering awareness.

4.5 Chapter 5: War

Chapter 5 begins with reference to the Vietnam War. This reinforces the positioning of the novel, or at least its beginning, at the end of the 1960’s and the beginning of the 1970’s. There is no specific reference to engineering or engineers in this introductory section called “On the Beach”.

The next section, ‘Sliding Down The Hill’, has some engineering allusion. Adam wishes to prove the existence of God using what is called a FAST diagram drawn from the field of value engineering. (FAST stands for Functional Analysis Systems Technique.) He is not obviously conscious in the novel of the area where he is deriving his approach from, although he has made earlier references to his readings of developments in America in various areas. Later he refers to McDonalds.

The chapter moves onto the third section ‘Makers of Fine Minds’. This is the beginning of an exposition of Teforp’s first venture. These commercial and entrepreneurial ventures become far bigger in scale in the other two novels “Pie Square” (d’ettut 2000) and “Greenwars” (d’ettut 1998). Even in this
developmental stage of Teforp, in the first novel he goes onto a larger enterprise towards the end of this book.

‘Makers of Fine Minds’ describes the way in which Adam first starts to conceptualise a chain of retreats in which the emphasis is on encapsulating the process of thoughtfulness, decision making and reflection. He plays with several names for the retreat like Divinci’s Retreat, The Mind Centre, The Brain Centre, and The Thinking Centre. He finally settles for the Thinking Factory. He talks of the McDonalisation of the human mind alluding to his vision (not yet consciously articulated) of a chain of such retreats.

He plays with many images, such as the logo for the new centre, and goes into quite specific detail in terms of the concept design, that is the themes he will use for the bedrooms; like the Da Vinci wing, the Freud wing, the Mozart wing and the Einstein wing.

He soon runs into obstacles. Initially these are to do with the funding of the project. He realises that vision alone is not sufficient to carry the project through. He must find adequate finance. In this instance he is thrust back into his father’s domain, having to borrow the initial seeding money from him. Its also through his father’s bank that he arranges the rest of the finance for the project. This is a compromise he hadn’t wished to make.

In the final section “Gestation, Birth and Death”, he goes into the specifics of the construction side of the project. He describes technical hitches that occur from the flooding of the trenches of the foundations through to the project organisation problems related to the project manager, the mad Scotsman. He also describes various aspects of council intervention. Specific construction details related to changes in the detailed design from a double brick construction with concrete slab floors to brick veneer and timber floors with the accompanying acoustic problems are discussed. A reference is made to some of the constraints imposed by the acoustics engineer in terms of fixing floors which in turn causes other problems. The importance of systemic relationships within a built structure become obvious.
Also there is discussion on certain aspects of fire rating and the specification for the thickness of the gyprock in that fire context. There are problems here. Many of these problems were the result of the changes of design by the project manager and also because of the council requirements.

Other areas of consternation include an RIF (rise in floors), another problem with council because of the change of design from double brick to brick veneer. The height of the building has to be relatively reduced by infilling a carpark, thus reducing the number of floors. This leads to drainage and leakage/waterproofing problems.

Finally there is a tremendous problem with a change in design from a relatively simple roof structure over both the dining area and the main conference area. The final roof design settled on is a steep pitched gable with dormer windows over the conference centre. A raked ceiling is also introduced. A steep (45 degree angle) pitch is introduced to the gable over the dining room. In both instances insufficient consideration is given to the structural engineering aspects. Within the context of the novel there is a sinking of the roof trusses in both instances because of the weight of the roof tiles and insufficient consideration given to reinforcing the trusses in their new design to support the weight of the tiled roof.

Disaster almost strikes. One brick wall has to be demolished and another nearly collapses. There is only the intervention of the structural engineer that saves the day.

Some other construction aspects are described, such as three courses of bricks too many being placed at the basement level and that mistake being carried right through to the ground and upper floor resulting in a change in roof height. This in turn causes leaking problems through a rough flashing job that has to be done to compensate.
In the end the project is completed but the delays have had a compounding financial affect. The project manager leaves before the project is finished. Teforp himself has to project manage the final components. The project has serious cost overrun problems. Finally the bank insists on principal and interest being paid. Teforp has to go into bankruptcy and his whole project dissolves into disaster.

Thus Adam's first enterprise and experience as an entrepreneur is a total failure. However from a novelistic perspective these “trials” related to this construction enterprise are but trials in life. He is to meet many more in the trilogy.

This chapter has moved into the second area developing the engineering theme. The author has given quite specific descriptions about the new “thinking factory” with certain simple engineering concepts like the collapse of one wall because of insufficient consideration being given to certain other structural engineering aspects. To provide a more human approach, this first entrepreneurial experience of Adam's, which is a reflection of his earlier struggle with the factory of his father (which he hated so much), and this experiment with a construction enterprise, is a failure.

4.6 - Chapter 6: First Great Adventure

Adam Teforp has finally emerged from bankruptcy. He has decided to leave Australia. This is the beginning of his first great entrepreneurial experiment.

As a teacher he already had, at a relatively early age, started on some experimentation by setting up a television production studio in primary school.

But as soon as he was out of bankruptcy he was out of Adelaide. He travelled to Sydney and then on to Europe. It was on his train trip to High Wycombe to the Hell Fire Club that he meets Dr David Lesthan. Lesthan becomes an important figure later in the chapter. But most significantly he
introduces himself as an engineer working with a major engineering organisation. These engineers work all over the world and are much involved in nuclear engineering, building nuclear power plants on remote locations.

Dr Lesthan gives some insights into what its like to work for this rather large engineering company (which is incidentally based on WS Atkins in Epson in the United Kingdom). The chapter flicks back to Adelaide and to his father’s decaying situation. There is a disastrous fire at Peter’s factory and after a series of rather bizarre events, Peter and his wife Gaynor (Adam’s mother) both die. There is a call to Adam to return to his despised Adelaide. But he manages, with some influence from Lesthan, to call into Panama on the way back to Australia. Intrigue abounds and there are certain sinister aspects to Lesthan that Adam can’t quite put his finger on. But he learns some interesting lessons from the engineering aspects associated with Panama. (this is described in more detail in the next chapter).

Upon Adam’s return to Adelaide, much lamented, he embarks upon a process by which he can divorce himself from the factory that he has inherited from his father. He does this with unusually successful and entrepreneurial skill.

The money that he is able to gain from the sale of the factory enables him to buy a huge tract of desert land near Maralinga in the Australian outback. This is a very significant event. The association with the nuclear tests some fifteen or twenty years earlier is no coincidence. There is an interlude in which Adam decides to build a mausoleum for his parents which is a stone replica of the hated factory. Here is his statement of contempt at the light engineering factory that was the foundation of his fathers business. Its a novelistic device within the book to draw attention to the contempt.

With the purchase of the vacant land near Maralinga more coincidence enters Adam’s life and his new commercial venture. This comes in the form, again, of Dr David Lesthan.
Adam flies out to Austria. In Salzburg they (he and Dr Lesthan) discuss the implications for nuclear power and nuclear waste, an area that Dr Lesthan is an expert in. Lesthan convinces Adam to store nuclear waste in the geologically and politically most stable area in the world as a good investment and a socially responsible thing to do. So the association of Lesthan, the fact that he has bought this site of land near Maralinga where atom bomb tests where carried out and correspondently the notion of nuclear waste storage, initiates this part of the plot.

The whole notion of storing nuclear waste in a country like Australia has to be done on a very covert basis. After convincing Adam to embark upon this enterprise, Lesthan leaves a parcel for Adam to take with him on his next venture.

Despite the failure in Adelaide of his first entrepreneurial/engineering activity, Adam, based on his father’s death and the inheritance that ensues; embarks upon one more entrepreneurial activity with a clear engineering background. This is to store nuclear waste. This chapter and the next chapter “Nuclear Surprise” detail a considerable number of aspects related to nuclear engineering.

4.7 Chapter 7: Nuclear Surprise

Eighteen months have passed and Adam is the owner of a very successful nuclear waste disposal facility. He thinks back to the earlier meetings with Lesthan and the “critical notes for (his) consideration”. There are specific details about the facilities to store nuclear waste and different ways in which it can be done. There are complex but more expensive processes; there are less expensive but dangerous processes.

The United States “contemptuous” approach to nuclear waste storage is covered. So too are some of the bomb tests carried out at Maralinga and other areas in Australia.
The author goes into considerable detail on the aspects of nuclear waste storage to provide credibility to this component of nuclear engineering.

The descriptions given, of the storage site eight hundred or so feet below the surface of the earth and how no residual rainfall would affect the waste for at least ten thousand years, adds realism.

It also describes the potential twenty miles of tunnel to be carved out of the rock in the next three years. Justifications for the location of this waste repository is given in terms of the low probability “the possibility of a major earthquake striking the earth in the next ten thousand years were almost nil.” It was assumed that the technology, with everything based on a ten thousand year scenario, if humans civilisation was still going, would take over and address any problems at that stage.

The dark and sinister aspects of corrupt public servants enters the story. It becomes apparent that Adam’s conscience or his youth are about to compromise the secrecy of the establishment. Rebus, a malevolent character, is concerned that Adam will talk to the press. The issue is resolved by a very lucrative buy-out offer being made to Adam. The final part of the story is Adam’s acceptance of the offer and his commitment once more to leave Adelaide for good.

4.8 The Panama Component of Amber Reins Fall

Initially the author of this thesis spent two weeks in Panama on business and used the experiences and opportunity to study one of the largest, if not largest, engineering feats in the world. The author was also able to meet with many senior people associated with the operation and future construction modifications of the Panama Canal as well as spending time with one of the Captains of vessels that dredge the Panama Canal. The latter was able to do an assessment of the technical aspects associate with the novel “The Dechahedron” (Dudley Hood, 2004) and its description of certain aspects of the Panama Canal. The only area that seemed to be not technically feasible
was a breach to one of the lock gates. That was the main observation of the Panama Canal Captain. However there are other inconsistencies within the context of the book already mentioned in the previous section.

The author did a second trip to Panama and worked again, this time for a week. The idea of maintaining the inclusion of the Panama component was reinforced.

Although it doesn’t form a significant component of the novel the “Panama experience” adds an element of intrigue as well as technical credibility to the engineering perspective of the book. The dark side of Dr Lesthan closely relates to the potential for either nuclear disaster (the waste problem) or nuclear surprise (terrorist attack). This author read “The Decahedron” (Dudley Hood, 2004) after a first visit to Panama. Its worth giving an overview of some of the technical aspects of the book itself, also written by an Australian author.

A significant component of the book is based in Panama and the denouement of the novel takes place on the Panama Canal itself, towards the end of the book.

The initial references to Panama are to do with the banking industry, laundering of illegal money, conversion of the proceeds from illegal arm sales into Panama Treasury bonds. The backdrop to this story is the time American forces are about to invade Panama to arrest the President (Noriega).

About two thirds the way through the novel Mark Nielson (the anti hero) is kidnapped by a corrupt member of the local police force. He escapes his captors and stumbles through the jungle at night. He judges that he has to be above the “Gaillard Cut”. “He stood along an 8 mile stretch about halfway through the Canal”. He surveys the situation and he sees the “highest point of the entire canal. East of here by about 20 miles was Gatun Lock, the last of three barriers situated 80 feet above Chagres Neck, a long stretch of water that ran straight to the Caribbean.
“Pedro Miguel locks was probably only a few miles west Mark deduced”. All this is accurate.

Mark pursues his analysis of the canal talking about the Calebra Cut “that had been the Achilles heel” of Ferdinand de Lesseps, the famous builder of the Suez Canal”.

Here of course there are some problems; if not engineering problems at least historical ones. De Lesseps was the initiator of the Panama Canal but did not, as said in this book, “lose his personal battle against malaria and yellow fever”. “De Lesseps last desperate years” as mentioned by Mark were actually spent in France many years after the French had withdrawn from the construction of the Canal, and didn’t have malaria or yellow fever.

He also goes on to talk of a “galvanised iron building at the water’s edge… the lock of the door had rusted shut…. Inside was an old mule locomotive crane designed to pull the larger ships through the various locks decaying in the centre of the shack.” This doesn’t make sense as the old mule locomotives were not cranes; they were mainly located on the locks themselves. They would not be found in sheds along the side of the canal. The mules were only used (which were relatively short, only a few hundred metres long) to centre the vessels so they would not strike the sides of the lock.

On page 230 the author talks about a panel marked “danger emergency manual gate override”. He then goes into detail speculating how the smashing of this panel “deep within the engine room of the control tower the grinding of hot, protesting metal pierce the night with a screeching howl which split the air,. The lock gates strained to open. Designed to open inward once the water level had been lowered, they now pushed against a wall of water. The release of the gates before the chamber was empty sent reverberations along the entire canal. The massive iron gates began to
quake on the water line and buckle against the pressure of thousands of tonnes of water that had started to push back."

Finally towards the end of this section of the novel (coming to the close of the story) he talks of a vessel smashing into the massive iron wall of the locks. “Designed to withstand the external impact from the vessel”.

Of course this has never happened so the novelist is speculating. In terms of the engineering context of his speculations the evidence seems to say he is reasonably accurate in what he is saying.

4.9 Amber Reins Fall: Engineering and this Novel’s Key Concepts

The novel, “Amber Reins Fall” was deliberately created as an adjunct to this thesis based on “the fact that a person or an author with no formal engineering training can create a novel that has high engineering credibility”. And this type of novel could be called En-Fi. The reason for suggesting the identification of a new genre called En-Fi is related to the opening argument that science fiction is frequently used very successfully to impart high technical explanations of things that “might happen in the future”. Whereas in En-Fi we argue we are taking “real life” engineering concepts, solutions and approaches; without the need to jump into the future. And this is done to strengthen the storyline, which perhaps pursues some social commentary based on the impact on society, or individuals, of some “engineering initiative”.

It’s argued that the seven chapters of “Amber Reins Fall” in the main, possess sufficient technical explanation of an engineering type that provides engineering credibility for the overall story to work. Its based on “engineering” type activities that were prevalent and important at the time the story is set, which was particularly in the late 1960’s and early 70’s.

It would be argued that the thesis has been proven; mainly that this author has been successful in creating such engineering credibility and its done in
the context of En-Fi rather than Sci-Fi. It could be argued that the other novels of d’ettut, “Greenwars”, “Vampire Cities” and “Pie Square” all have components of En-Fi and Sci-Fi; but that argument was articulated earlier with emphasis now being on En-Fi.

"Amber Reins Fall" is the first of the three novels involving Adam Teforp’s development as an extraordinary entrepreneur. The books have been written as a retrospective trilogy. This first successful venture of Adam’s launches him into a series of further successful enterprises. All these enterprises are very dependent upon “engineering insights.”
5.0 The Conclusion

It would seem at this point that there are many engineers who write fiction novels. But that was not the essence of this particular thesis. The search for authors that are not trained as engineers but have an engineering component in their fiction has yielded a large number such as Willa Cather (Alexander’s Bridge, 1976); Michael Crichton (Timeline, 1999, Jurassic Park, 1991, Congo, 1980, etc); Richard Harding Davis (Soldiers of Fortune, 1897), Wiliam Golding (The Spire, 1964); Dudley Hood (The Decahedron, 2004); and many others. The contributions of these authors as non-engineers to what is called En-Fi is described in detail in Section 2.

More anecdotally than scientifically it would seem that those authors who write from an engineering perspective or place an engineering component in their novels as a literary device, gain that engineering perspective not so much from formal education and training in engineering but either from an intuitive ability (Petrosky, 1992 “The Ideas of Engineering are in fact in our bones and part of our human nature and experience”) or from some research in the particular area of concern they have. Its interesting to note that whilst some authors, including Willa Cather (1912) use some well chosen technical terms to describe a technical context and give credibility to the overall story, none of the authors cited by this author have gone the detailed route of engineering and started to describe certain mathematical and quantitative aspects of engineering that are indeed germane to engineering. Does this mean the author is not capable (see Two Cultures in Section 5.1) or does it just mean that the reader would not be interested in the quantitative aspect of engineering? This quantitative aspect perhaps would not add to the storyline.
5.1 The Two Cultures Argument

CP Snow drew a distinction between the culture of science and the culture of intellectuals (the latter pertaining mainly to the literary/artistic world). Snow (1961) traced the divide between science and culture to the belief of non-scientists that scientists were “shallow and optimistic” and by scientists that the non-scientists of the day were in turn “totally lacking in foresight and in a deep sense anti-intellectual” and so on. It appears that CP Snow was one of the few people who could straddle the two cultures.

Much has been written on this dichotomy. Arguments have flared, predominantly supporting one side of the dichotomy being superior to the other.

There are fallacies involved in the arguments. For example, Snow (1961) said that intellectuals of the day were “particularly unconcerned with their brother men” (p11); when others have suggested that the intellectuals of the early twentieth century were predominantly leftists and a defining character of the left is optimism about man’s nature. Snow argued that the “gulf that exists between science and his version of intellectuals is a result of scientists’ complete disregard for traditional culture and ........ what the natural world might teach us about potential problems with that culture” (p15). Whatever the outcomes of the ongoing debate one could ask the question as to whether it has any relevance to the notion of author as engineer.

It appears that the two cultures argument is totally irrelevant to the notion of engineering fiction or En-Fi. If anything the En-fi writer bridges the two cultures gap, if one does exist (I can only assume the writer is the intellectual/artistic side of the equation and the engineer is the scientist in the other part of the equation). The engineer is a designer. So too is the writer. The engineer designs aspects of technology. The writer designs plot. If he or she can augment the plot with allusions to engineering and that too gives credibility to the storyline; then so be it.
5.2 Creativity vs Training for Engineering Credibility

The author of this thesis and attached novels is not an engineer. He is a psychologist. He was worked on many major engineering projects as a facilitator on collaborative decision making processes. Its his contention that with sufficient exposure to a particular engineering project or indeed an engineering principle, an author, untrained professionally as an engineer, can still write with credibility using an engineering perspective.

Creativity rather than training would be seen as the driving element. The creativity of the writer is in being able to draw a parallel between the engineering concept and then, using that metaphorically to augment their storyline. Indeed it would appear that many writers are able to take an engineering concept, possibly magnify or exaggerate the impacts of that particular engineering concept and foresee what might well be the impacts either on society or indeed a specific individual. Teforp in all three novels in the trilogy, whilst he is the perpetrator of many “engineering principles and designs”, is himself also a victim of those very same designs. His inventiveness, whilst bringing him massive wealth further on in life, ultimately brings about his own demise.

5.3 En-Fi as a New Genre

Entering “engineering in the novel” to google, library and other databases, initially displays “novel engineering”, “engineering in novel context”, “novel approaches in civil engineering”, “engineering students display novel creation”, and the like, was not helpful in the context of this thesis.

“Novelist as Engineer” revealed something a little more interesting. Julian Livingstone was revealed as an opera composer, novelist and engineer. It appears that most of his work was in the composition of musical and opera pieces. However from 1994 to 1996 he started creative writing and wrote his novel “The Anonymous North America Tour of Frans Liszt”. Neville Shute was both an engineer and novelist. He studied and graduated in engineering
at Oxford. Most of his writing was related to various aspects of the air industry. In all of his books he draws on his personal experiences in the air industry, war time or his sailing. But one has to accept that personal experiences are only background settings. Mihajlo Kazic obtained his MSc and PHD in engineering from the University of California in 1986 and 1988 respectively. His first fiction work was published in English “Emperor of the Galatians” (1993). He wrote two other books which were not published in English “Broken Journey” (1996); “The Gates of Heaven” (1998). It's difficult to ascertain whether his work has incorporated his engineering study or training.

Dostoevsky, the famous Russian novelist, was an engineer by training. So too was Alfred Hitchcock. He was a gifted film director (perhaps not a novelist); but also a mechanical and electrical engineer.

The above has indicated there are engineers who are novelists. But the research has not revealed any work on novelists who can credibility act as engineer but who indeed did not have an engineering background.

We know that science fiction has been around for at least two centuries and to a certain degree science fiction does incorporate engineering. We know that many of the writers of science fiction, even going back as far as Jonathon Swift and his “Gulllivers Travels”, which has been hailed as one of the first science fiction books, were not trained as engineers.

While we find a number of engineers using contemporary engineering in novels, we also find many non-engineers have clearly written credible material related to engineering that is both supportive of the literary creation, that is the storyline, and has also provided real life backdrops to these storylines.

The question can then be asked, why isn't there a genre called En-Fi.
So this author would submit that the case for a genre of engineering fiction, based on non-engineers writing credible engineering literature, could well be given the title “En-Fi”.

5.4 Engineering Summary in Amber Reins Fall and the Other Novels of d’ettut

Chronologically the novels of this thesis/author (nom de plume d’ettut) are as follows:

1) The first novel was “Greenwars” (d’ettut 1998)
2) The second novel was “Pie Square” (d’ettut 2000)
3) The third novel was “Vampire Cities” (d’ettut 2000)
4) The fourth novel was “Amber Reins Fall” (unpublished)

The “theoretical inventions” of “Greenwars” (d’ettut 1998), “Pie Square” (d’ettut 2000) and “Vampire Cities” (d’ettut 2000) could be argued by some to lie in the science fiction genre. As the author of these novels I would argue they are merely devices to make social comment. In the case of “Green Wars” I would argue that social and moral evolution will always fall behind that of technological innovation and that technological innovation will always be driven in the quest for war and dominance. The major “theoretical invention” in “Green Wars” was AARDVARK. Other innovative devices were subordinate to AARDVARK in terms of their importance to the storyline.

The second novel, “Pie Square” (d’ettut 2000), has at its crux the interactive video games. This demonstrates a clear case of Adam Teforp’s social engineering and manipulating the minds of the young. In this instance Teforp’s manipulations are benign and the interactive video games should be seen as being positively constructed in a social sense.

The third novel, “Vampire Cities” (d’ettut 2000), has a strong allusion to either unknown forces, probably alien, lurking at the periphery of man’s
consciousness or its about insanity and delusion; or about both. There is only one artefact in the novel that could be regarded as a “theoretical invention”.

That brings us to the fourth novel, “Amber Reins Fall”. The novel brings us back to the original intention of this thesis and that was to focus on novels that describe mundane aspects of “engineering” to strengthen the storyline. In the case of “Amber Reins Fall”, the first novel in the retrospective trilogy (but the last to be written), engineering components are not complex although they tend to be, from the author’s perspective, reasonably detailed in description to add credibility to the storyline. The descriptions of the light engineering factory are comprehensive. The descriptions of the development of the thinking factory take on board many facts described in its construction and finally the project for the disposal of nuclear waste has at is basis not only conjecture but real-life developments, albeit they appear in the real world thirty years later. The experience in Panama should probably be mentioned too because of its engineering orientation.

There is nothing in “Amber Reins Fall” from an engineering point of view that would need to be considered in the context of a science fiction novel or the science fiction genre. This might be the case for the other three novels, but certainly not for this one. Thus its En-Fi. Also “Amber Reins Fall” is the genesis of Adam Teforp’s bizarre journey through a series of entrepreneurial activities that have initially, major effects on human society, and ultimately lead to its complete demise. Thus the first of the novels starts with credible engineering concepts and then moves on to more incredible aspects in the two later novels.

5.5 Conclusion

The central argument of this thesis is that a novelist can, without any engineering training, create credible engineering feats or incidents in their novels.
I have personally identified this on numerous occasions especially with reference to my own three published novels plus the fourth novel specifically formulated to support this thesis. Additionally, I have identified a new literary genre – “En-Fi”.

In the four novels there has been significant engineering components. They are as follows:

1) The first novel was Greenwars (d’ettut 1998) – the overriding engineering components in this are AARDVARK (accelerated animal reasoning, decision making, voicing and reflective kinetics), the interactive voting video, and the dolphin scooters

2) The second novel was “Pie Square” (d’ettut 2000) – the engineering components include the interactive video games

3) The third novel was “Vampire Cities” (d’ettut 2000) – the major engineering component was the conductor’s baton

4) The fourth novel was Amber Reins Fall – the engineering components include the light engineering factory in the 1950’s, the social engineering self development manuscript, development of the Thinking Factory, the Panama experience, and the disposal of nuclear waste.

Clearly from the literature review and from the construction of “Amber Reins Fall” it becomes an obvious conclusion that the previously stated hypothesis of this thesis is true; that is that non-engineers can write convincing engineering oriented novels. It should also be asserted that there is sufficient evidence that “real life” engineering concepts incorporated into fiction novels are quite different from the science fiction genre and this newly identified genre could be called En-Fi.
References


Century (1895). The Conquest of Arid America. (V50) pp 175-84


Grenville, Kate. (April 2002). The Idea of Perfection. Sydney, University of Sydney Gazette. pp 6-7


Harpers (1910). In Praise of Bridges. (V71) pp 925-33


Lemof, Rebecca. (2005). World as Laboratory. Heal and Fang


McClures. (1907). Lavis Brennam’s Mono-Rail Car. (V30) pp 163-74


Wells, H. G. When the Sleeper Awakes. WA, USA, Abraus Books.


Appendices
## Appendix 1: List Of Inventions From Science Fiction

Source: Technovelgy: Engineering in Science Fiction.  

<table>
<thead>
<tr>
<th>Date</th>
<th>Device Name (Novel Author)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>Geometric Modeling - eighteenth century NURBS (from Gulliver's Travels by Jonathan Swift)</td>
</tr>
<tr>
<td>1876</td>
<td>Knowledge Engine - machine-made expertise (from Gulliver's Travels by Jonathan Swift)</td>
</tr>
<tr>
<td>1894</td>
<td>Launching Facility - in Florida (from From the Earth to the Moon by Jules Verne)</td>
</tr>
<tr>
<td>1876</td>
<td>Air-Ship (VTOL Airship) (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Magnetic Eyes (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Electric Phaetons (Electric Cars) (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Instantaneous Kodaks (Traffic Control) (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Vehicle Energy Reclamation (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Ryolit - renewable energy vision (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Magnetic Railroads (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Wind Power Generation (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Marine Spider (Hydrofoil) (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Global Climate Control (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Aeriduct (Rain Maker) - watch for showers (from A Journey In Other Worlds by John Jacob Astor IV)</td>
</tr>
<tr>
<td>1894</td>
<td>Time Machine - the original (from The Time Machine by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Atomic Microscopy (from The Crack of Doom by Robert Cromie)</td>
</tr>
<tr>
<td>1894</td>
<td>Atomic Bomb - very early reference (from The Crack of Doom by Robert Cromie)</td>
</tr>
<tr>
<td>1894</td>
<td>Monsters Manufactured - chimeras described (from The Island of Dr. Moreau by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Invisibility - now you see it - (from The Invisible Man by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Tripod - inhuman robotic ships from Mars! (from The War of the Worlds by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Disintegrator (from Edison's Conquest of Mars by Garrett P. Serviss)</td>
</tr>
<tr>
<td>1894</td>
<td>Aerial Telegraph (from Edison's Conquest of Mars by Garrett P. Serviss)</td>
</tr>
<tr>
<td>1894</td>
<td>Air-Tight Dress (from Edison's Conquest of Mars by Garrett P. Serviss)</td>
</tr>
<tr>
<td>1894</td>
<td>Biological Warfare - first use of the concept in fiction (from The War of the Worlds by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Heat Ray - concept of the laser (from The War of the Worlds by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Steel Tentacle (from The War of the Worlds by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Moving Picture Player - like a video iPod (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Moving Roadway - like a baggage conveyor (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Kinetoscope Appliance - like a PDA (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Individualized Clothing Manufacture - clothes just for you (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Automatic Door - like a roll top desk (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Town In One Building - like an arcology (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Babble Machine - you know (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>DVD/VCR (Entertainment Player) (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
<tr>
<td>1894</td>
<td>Networked World (from When the Sleeper Wakes by H.G. Wells)</td>
</tr>
</tbody>
</table>
Eadhamite (from When the Sleeper Wakes by H.G. Wells)
Automated Surface Measurement - 100 years before CGI needed it (from When the Sleeper Wakes by H.G. Wells)
Aerocar - first use of idea? (from The Abduction of Alexandra Seine by Fred C. Smale)
Cavorite - antigravity metal (from The First Men in the Moon by H.G. Wells)
Joystick Controls w/Remote Display (from The Land Ironclads by H.G. Wells)
Telemedicine Apparatus - first known reference (from The Machine Stops by E.M. Forster)
Cinematophote - first reference to television (from The Machine Stops by E.M. Forster)
Automaton Chessplayer - the first chess-playing computer (from Moxon's Master by Ambrose Bierce)
Personified Nurses (from Ralph 124C 41 + by Hugo Gernsback)
Electric Rifle - Tom Swift's weapon of choice (from Tom Swift and His Electric Rifle by Victor Appleton)
Telephot - early videophone (from Ralph 124C 41 + by Hugo Gernsback)
Demagnetizing Ray (from The Lord of Labour by George Griffith)
Sub-Atlantic Tube - undersea tunnel (from Ralph 124C 41 + by Hugo Gernsback)
Tele-Motor-Coasters (from Ralph 124C 41 + by Hugo Gernsback)
Steelonium - very early reference (from Ralph 124C 41 + by Hugo Gernsback)
Language Rectifier - first reference to machine translation (from Ralph 124C 41 + by Hugo Gernsback)
Detectophone - machine translation of language (from Ralph 124C 41 + by Hugo Gernsback)
Teleautograph (from Ralph 124C 41 + by Hugo Gernsback)
Actinoscope (from Ralph 124C 41 + by Hugo Gernsback)
Hypnobioscope (from Ralph 124C 41 + by Hugo Gernsback)
Automated Restaurant - food from robots (from A Princess of Mars by Edgar Rice Burroughs)
Sunny Tank (from Warlord of Mars by Edgar Rice Burroughs)
Magnetic Elevator - no watches allowed (from The Gods of Mars by Edgar Rice Burroughs)
Robot - short history of the term (from R.U.R. by Karel Capek)
Networked Telephone Answering Machine (from Men Like Gods by H.G. Wells)
Wireless Access Point (from Men Like Gods by H.G. Wells)
Blaster - a deadly energy weapon, (from When The Green Star Wanied by Nictzin Dyalhis)
Telechart (from Crashing Suns by Edmund Hamilton)
Psychophonic Nurse - a nanny robot (from The Psychophonic Nurse by David H. Keller)
Electric Diaper (from The Psychophonic Nurse by David H. Keller)
Space Suit - early reference (from Skylark of Space by E.E. 'Doc' Smith)
Raytron Apparatus - aerial surveillance (from Beyond the Stars by Ray Cummings)
Needle Pipe - needle gun (from Beyond the Stars by Ray Cummings)
Granulite Compassometer - long before Mathematica (from Beyond the Stars by Ray Cummings)
Rain-Producer (from Crashing Suns by Edmund Hamilton)
De-atomizing Ray - a disintegration beam (from Crashing Suns by Edmund Hamilton)
Attractive Ray - first use of idea? (from Crashing Suns by Edmund Hamilton)
Vibration-Propelled Cruiser - waves in spacetime (from Crashing Suns by Edmund Hamilton)
Private Space Cruiser (from Crashing Suns by Edmund Hamilton)
Telespectroscope - earliest reference to holograms? (from Crashing Suns by Edmund Hamilton)
Heat Transmitter - warmth to outer planets (from Crashing Suns by Edmund Hamilton)
Meteorometer - meteors ahead (from Crashing Suns by Edmund Hamilton)
Steering a Star - driving a sun (from Crashing Suns by Edmund Hamilton)
O-320 (from Tarzan at the Earth's Core by Edgar Rice Burroughs)
Heavy Affection (from Tarzan at the Earth's Core by Edgar Rice Burroughs)
Shield (from SkyLark Three by E.E. 'Doc' Smith)
Matched-Frequency Separable Units (from SkyLark Three by E.E. 'Doc' Smith)
Ray Gun (from The Black Star Passes by John W. Campbell)
Visiplane - early flat panel viewer (from SkyLark Three by E.E. 'Doc' Smith)
Death Ray - from The Emperor of the Stars by Nat Schachner (w. AL Zagat)
Gravity Assist - very early use (from Brigands of the Moon by Ray Cummings)
Annihilator Beam (from The Conquest of Gola by L.F. Stone)
Photoelectric Course Warning - aid to spaceship pilots (from Out Around Rigel by Robert H. Wilson)
Helio-Beryllium (from Out Around Rigel by Robert H. Wilson)
Atmosphere Tester (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Object-Finder Beam (from The Conquest of Gola by L.F. Stone)
Attractor - come hither and stay still (from The Conquest of Gola by L.F. Stone)
Matter Transmitter - ride the beam (from The Conquest of Gola by L.F. Stone)
Gravitio-Statoscope (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Eavesdropping Ray - hears through walls (from Brigands of the Moon by Ray Cummings)
Dimensoscope - see into new dimensions (from The Fifth-Dimension Catapult by Murray Leinster)
Disruptor Tube - pale beam of destruction (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Mechanical Thought Transformers (from The Conquest of Gola by L.F. Stone)
City of Space - rotating habitat (from The Prince of Space by Jack Williamson)
Paralyzing Ray - early use (from Brigands of the Moon by Ray Cummings)
Invisible Cloak - long before Harry Potter (from Brigands of the Moon by Ray Cummings)
Moon Dome - first reference (from Brigands of the Moon by Ray Cummings)
Lunar Mining - moon mining camp (from Brigands of the Moon by Ray Cummings)
Moon Walk - presages Apollo (from Brigands of the Moon by Ray Cummings)
Lunar Rod Detectors (from Brigands of the Moon by Ray Cummings)
Zero-Ray (from An Adventure in Futurity by Clark Ashton Smith)
Emergency Corrective Rockets (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Pencil Heat Ray - narrow beam (from Brigands of the Moon by Ray Cummings)
Tractor Beam - pulling force at a distance (from Space Hounds of IPC by E.E. 'Doc' Smith)
Pressor (Pressor Beam) - push not pull (from Space Hounds of IPC by E.E. 'Doc' Smith)
Thought Screen (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Force-Field (from Space Hounds of IPC by E.E. 'Doc' Smith)
Transparent Spherical Ship (from The Emperor of the Stars by Nat Schachner (w. AL Zagat))
Pentavalent Nitrogen - most powerful chemical explosive. (from Space Hounds of IPC by E.E. 'Doc' Smith)
Bokanovsky's Process (from Brave New World by Aldous Huxley)
Super-Photon (from Invaders From The Infinite by John W. Campbell)
Hypnepedia (Sleep-Teaching) - learn while asleep (from Brave New World by Aldous Huxley)
Centrifugal Bumble-Puppy (from Brave New World by Aldous Huxley)
Meteor Warning System - incoming meteor swarm detected (from A Conquest of Two Worlds by Edmund Hamilton)
Artificial Womb - very early use of concept (from Brave New World by Aldous Huxley)
Tele-Screen (from After Armageddon by Francis Flagg)
Rigid Metallic Clothing - almost an exoskeleton (from A Conquest of Two Worlds by Edmund Hamilton)
Vibra-Transmitter (Teleportation) (from Into the Meteorite Orbit by Frank K. Kelly)
Granton Motor (from Into the Meteorite Orbit by Frank K. Kelly)
Electric Machine Gun (Railgun) - electromagnetic acceleration (from The Battery of Hate by John W. Campbell)
Mother Ship - first use of expression (from Triplanetary by E.E. 'Doc' Smith)
Protective Shield - personal force field (from Triplanetary by E.E. 'Doc' Smith)
Moving a Planet - early use of idea (from Triplanetary by E.E. 'Doc' Smith)
Ultrawave - FTL communication (from Triplanetary by E.E. 'Doc' Smith)
Space Armor - armored protection like knights (from Triplanetary by E.E. 'Doc' Smith)
Lifeboat - early mention (from Triplanetary by E.E. 'Doc' Smith)
Ablative Heat (Reentry) Shield - very early reference (from Triplanetary by E.E. 'Doc' Smith)
Ether-Wall - an invisibility field, (from Triplanetary by E.E. 'Doc' Smith)
Emergency Lifeboat - very early space rescue vehicle (from Triplanetary by E.E. 'Doc' Smith)
Hypnopædia (Sleep-Teaching) - learn while asleep (from After Armageddon by Francis Flagg)
Astronavigator - automatic transcription (from The Lost Language by David H. Keller)
Thermectrium (from Blindness by John W. Campbell)
Machine (Thinking Machine) - very early description of an intelligent computer (from The Machine by John W. Campbell)
Radiation Shield (from The Ultimate Weapon by John W. Campbell)
Probability Time Wave Tube (from Elimination by John W. Campbell)
Wireless Wrist Intercom - like a cell phone (from Things To Come by H.G. Wells)
Television Field of Force (from The Cometeers by Jack Williamson)
Gravity Detector (from The Cometeers by Jack Williamson)
Transparent Flat Panel Display - early flat panel (from Things To Come by H.G. Wells)
Planetary Engineering (from The Cometeers by Jack Williamson)
Cartograph - a GPS-like trip readout (from The Cometeers by Jack Williamson)
Giant Flat Panel Display (from Things To Come by H.G. Wells)
Photoelectric Telescope (Photoelectric Eyes) - astronomical pictures produced automatically (from The Cometeers by Jack Williamson)
Geodynes - pushing against the fabric of space (from The Cometeers by Jack Williamson)
Scabar Flying Insect Robot - tiny robotic insect (from The Scarab by Raymond Z. Gallun)
Gravity Neutralizing Disks (from Fessenden's Worlds by Edmund Hamilton)
Miniature Universe (from Fessenden's Worlds by Edmund Hamilton)
Groundcar (or Ground Car) - the old-fashioned present (from Galactic Patrol by E.E. 'Doc' Smith)
Droide (Neutralization of Inertia) - watch that first step (from Galactic Patrol by E.E. 'Doc' Smith)
Droid-Life Ultra-Communicator (from Galactic Patrol by E.E. 'Doc' Smith)
Ultra-microrobot - small as an insect (from A Menace in Miniature by Raymond Z. Gallun)
Proton Pistol (Proton Beam) - beams of fury (from A Menace in Miniature by Raymond Z. Gallun)
Artificial eye - first use of this idea? (from Galactic Patrol by E.E. 'Doc' Smith)
Designed Bacteria - purposive genetic modification (from Seeds of Dusk by Raymond Z. Gallun)
Giant Televised Televisions (from The Robot and the Lady by Manly Wade Wellman)
Pneumatic Bumpers (from The Brain Pirates by John W. Campbell)
Atomic-Powered Lifting Suits (from The Brain Pirates by John W. Campbell)
Tiny Atomic-Power Drive Unit - compact power of the atom (from The Brain Pirates by John W. Campbell)
Cosmic Teletype (from Cosmic Teletype by Carl Jacobi)
Space-Lanes - like the space-ways (from Cosmic Teletype by Carl Jacobi)
Field-Projector (from Easy Money by Edmund Hamilton)
Television - wrap TV around the world (from The Challenge of Atlantis by Arthur J. Burks)
Teleoperated Robot Surrogate - love via robot (from The Robot and the Lady by Manly Wade Wellman)

Control Helmet (from Easy Money by Edmund Hamilton)

Ultraset (Ultrawave Set) - fast comm (from Habit by Lester del Rey)

Moon Skis - ah the lunar powder (from Requiem by Robert Heinlein)

Shock Hammock (from Habit by Lester del Rey)

Vibrobale - not messy (from If This Goes On... by Robert Heinlein)

Paralysis Bomb (from If This Goes On... by Robert Heinlein)

Space Freighter - for hauling big loads (from Vault of Beast by A.E. van Vogt)

Robo-Buddy - child companion (from Robby by Isaac Asimov)

Solar Reception Screen - photovoltaics in action (from The Roads Must Roll by Robert Heinlein)

Sunpower Screen - photovoltaic cells power vehicle (from Coventry by Robert Heinlein)

Knockdown Cabin - portable shelter (from Coventry by Robert Heinlein)

Mind-Shield (from Slan by A.E. van Vogt)

Steel Tortoise - the original ATV (from Coventry by Robert Heinlein)

Rolling Road - public transport (from The Roads Must Roll by Robert Heinlein)

Hush-a-Phone - noise suppression for telephones (from The Roads Must Roll by Robert Heinlein)

Air Blast - the first air dryer (from Coventry by Robert Heinlein)

Refreshing Chamber (from Coventry by Robert Heinlein)

Barrier (Force Field) - force field fence (from Coventry by Robert Heinlein)

Tumblebug - a gyro-stabilized monocycle (from The Roads Must Roll by Robert Heinlein)

Tesseraet House (from And He Built A Crooked House by Robert Heinlein)

Telechronometer (from Blowups Happen by Robert Heinlein)

Terraform - remake a planet (from Collision Orbit by Jack Williamson)

Neotronics - genius on tap (from Microcosmic God by Theodore Sturgeon)

Roving Bomb - RC weaponry (from Lost Rocket by Manly Wade Wellman)

Interplanetary Union Of Spacemen (from Old Fireball by Nat Schachner)

Talking Speedometer (from Biddiver by Theodore Sturgeon)

Needle Gun (from Slacker's Paradise by Malcolm Jameson)

Space Overseas - easier than space suits (from Lost Rocket by Manly Wade Wellman)

Magnetized Boots - made for walking (from Lost Rocket by Manly Wade Wellman)

Oxygen Freshener - breath of fresh air (from Lost Rocket by Manly Wade Wellman)

Automatic Speeding Fine (from Old Fireball by Nat Schachner)

Cold-Sleep - hibernation for humans (from Methuselah's Children by Robert Heinlein)

Solar Energy Beam - ultimate in solar power production (from Masquerade by Clifford Simak)

Sleep Surrogate - substitute for sleep (from Methuselah's Children by Robert Heinlein)

Howard Families - from Methuselah's Children by Robert Heinlein

Robopark - automated parking garage (from Methuselah's Children by Robert Heinlein)

Weather Integrator - every day perfect (from Methuselah's Children by Robert Heinlein)

Self-Lighting Cigarette (from Methuselah's Children by Robert Heinlein)

Lunar Used Spacecraft Lot - low (gravity) prices (from Methuselah's Children by Robert Heinlein)

Group ego - a kind of group mind (from Methuselah's Children by Robert Heinlein)

Genetically Modified Food (from Methuselah's Children by Robert Heinlein)

Cold-Rest - reduced temperature somnolence (from Methuselah's Children by Robert Heinlein)

Joy-boat Junior - a private space yacht (from Methuselah's Children by Robert Heinlein)

Customized Clothing - mass customization (from Methuselah's Children by Robert Heinlein)

Traffic Control Camera - automatic identification (from Methuselah's Children by Robert Heinlein)

Hypnotic injunction (from Methuselah's Children by Robert Heinlein)

Fresher - refreshing chamber (from Methuselah's Children by Robert Heinlein)

Astrogation (to Astrogate) - steer to the stars (from Methuselah's Children by Robert Heinlein)

Camden Speedster - compare this to an SUV (from Methuselah's Children by Robert Heinlein)

Disintegrating ray (from Robot AL-78 Goes Astray by Isaac Asimov)

Energy Weapon (from Seesaw by A.E. van Vogt)

'Chatterbox' News-Receptor (from Methuselah's Children by Robert Heinlein)

Positronic Brain - many connections (from Reason by Isaac Asimov)

Automated Hotel Reservation (from Methuselah's Children by Robert Heinlein)

Slidewalk - conveyor for people (from Sand by Fritz Leiber)

Newsbox (News-Receptor) - better than Google news plus Tivo (from Methuselah's Children by Robert Heinlein)

Psychophone (from The Mechanical Mice by Maurice A. Hugi)

Robot Mother - self-reproducing automaton (from The Mechanical Mice by Maurice A. Hugi)

Golden butterflies - tiny robots (from The Mechanical Mice by Maurice A. Hugi)

Controlway (from Methuselah's Children by Robert Heinlein)

Broomsstick Speedster (from Waldo by Robert Heinlein)

Gravanol - good at high accelerations (from QRM - Interplanetary by George O. Smith)

Waldo - the origin of telefactoring (from Waldo by Robert Heinlein)

Radiation Garment (from Waldo by Robert Heinlein)

Zero-G Ashtray (from Waldo by Robert Heinlein)

Wheelchair - home for the disabled in space (from Waldo by Robert Heinlein)

Thought-Screen - stop alien mind control (from Gray Lensman by E.E. 'Doc' Smith)

Control Natural (from Beyond This Horizon by Robert Heinlein)

Three Laws of Robotics (Rules of Robotics) - the original robot laws (from Runaround by Isaac Asimov)

Sobriety Ray - instantly sober (from The Twonky by Lewis Padgett)

The Twonky - original robot (from The Twonky by Lewis Padgett)

Space Tug - tows a space barge (from Describe a Circle by Eric Frank Russell)
1942  Wobbler - underwater robot (from The Wobbler by Murray Leinster)
1942  Slideway - moving sidewalk (from Beyond This Horizon by Robert Heinlein)
1942  Capillotomer (from Beyond This Horizon by Robert Heinlein)
1942  Martian Sawgrass - air plant (from QRM - Interplanetary by George O. Smith)
1942  Venus Equilateral Relay Station (from QRM - Interplanetary by George O. Smith)
1942  Radiant Power Receptor - broadcast power receiver (from Waldo by Robert Heinlein)
1942  News Roundup - better than Tivo (from Beyond This Horizon by Robert Heinlein)
1942  Imperium - the way is shut (from Clash by Night by Lawrence O'Donnell)
1942  Meteor-Spotted Radar (from Recall by George O. Smith)
1942  Microcoin (Microbook) - perfect for space travel (from One Way Trip by Anthony Boucher)
1942  Star Base (from Star Base X by R.M. Williams)
1942  Robot Lawn Mower - already here (from City by Clifford Simak)
1942  Videophone (from World of Null-A by A.E. van Vogt)
1942  Sleeve Communicator - before ST:TNG (from First Contact by Murray Leinster)
1942  Vision Plate - early flat screen (from First Contact by Murray Leinster)
1942  Geosynchronous Satellite - invention of idea (from V2 for Ionospheric Research by Arthur C. Clarke)
1942  Meteor Blazers - clear the spaceways (from First Contact by Murray Leinster)
1942  Tanks (from A Logic Named Joe by Murray Leinster)
1942  Carson Circuit - the secret of the Internet (from A Logic Named Joe by Murray Leinster)
1942  Logics Service (from A Logic Named Joe by Murray Leinster)
1942  Logics - early home computer (from A Logic Named Joe by Murray Leinster)
1942  Ion Drive - weak but strong (from Equalizer by Jack Williamson)
1942  Microwavable Food - pre-packaged ready to heat-n-eat (from Space Cadet by Robert Heinlein)
1942  Space Ark - moving to another world (from Decision Illogical by N.B. Wilkinson)
1942  Solidograph-Projector - gives you that 3D image (from Police Operation by H. Beam Piper)
1942  Solidograph - Tiny 3D projection (from Police Operation by H. Beam Piper)
1942  Precog (v) - I see you (from Police Operation by H. Beam Piper)
1942  Speakwrite - transcription of tyranny (from 1984 by George Orwell)
1942  Tag-Along Balloon - find the space station leak (from Gentlemen, Be Seated by Robert Heinlein)
1942  Portable Telephone - early reference (from Space Cadet by Robert Heinlein)
1942  High-Frequency Oven - essence of the microwave (from Space Cadet by Robert Heinlein)
1942  Crimestop - no dangerous thoughts (from 1984 by George Orwell)
1942  Telescreen - Big Brother is watching (from 1984 by George Orwell)
1942  Moonquake-Proof Habitats - thanks to Robert Heinlein (from Gentlemen, Be Seated by Robert Heinlein)
1942  Doublehink (from 1984 by George Orwell)
1942  Moonbase (or Moon Base) - first reference (from 240,000 Miles Straight Up by L. Ron Hubbard)
1942  Desert Cabbage (from Red Planet by Robert Heinlein)
1942  Culture Tank (from Needle by Hal Clement)
1942  Space Platform (from The Morning of the Day They Did It by E.B. White)
1942  Stratovideo (Television Plane) - line-of-sight communication (from The Morning of the Day They Did It by E.B. White)
1942  Voice-Clock (from The Martian Chronicles by Ray Bradbury)
1942  Torch (from Farmer in the Sky by Robert Heinlein)
1942  Shuttle (from Stars are Styx by Theodore Sturgeon)
1942  Automatic Light Switch (from The Man Who Sold The Moon by Robert Heinlein)
1942  Hybrid Mass Driver - moon bound (from The Man Who Sold The Moon by Robert Heinlein)
1942  Robot Mice - tiny cleaning machines (from The Martian Chronicles by Ray Bradbury)
1942  Winged Rocket Shuttle (from Between Planets by Robert Heinlein)
1942  Movable Sideway - it comes to you (from Between Planets by Robert Heinlein)
1942  Happilife Home - visit to The Veldt (from The Illustrated Man by Ray Bradbury)
1942  Doodads - scentplayer (from The Illustrated Man by Ray Bradbury)
1942  Helmet-Mounted Display Screen - display where you need it (from Rock Diver by Harry Harrison)
1942  Robass - a robotic mule (from The Quest for Saint Aquin by Anthony Boucher)
1942  Security Restraint Field (from Between Planets by Robert Heinlein)
1942  Space Transfer Station (from Between Planets by Robert Heinlein)
1942  The Veldt - serengeti in the nursery (from The Illustrated Man by Ray Bradbury)
1942  Vibratory Mass Penetrator - not what you're thinking (from Rock Diver by Harry Harrison)
1942  Spinning Pressurized Drum (from Between Planets by Robert Heinlein)
1942  Molecule Matrix (from Between Planets by Robert Heinlein)
1942  Guided Missile Control Station (from Between Planets by Robert Heinlein)
1942  Ultrawave Relay (or Hyperwave Relay) - first use of FTL communication (from Foundation by Isaac Asimov)
1942  Autocab (from Between Planets by Robert Heinlein)
1942  Audio Relay - personal RFID transceiver (from The Puppet Masters by Robert Heinlein)
1942  Neutron Disruption Blaster (from Rock Diver by Harry Harrison)
1942  Solidograph - Tiny 3D projection (from Police Operation by H. Beam Piper)
1942  Shuttle Ship - early Space Shuttle (from Between Planets by Robert Heinlein)
1942  Cold-Sleep - hibernation between the stars (from Between Planets by Robert Heinlein)
1942  Microwire (from Between Planets by Robert Heinlein)
1942  Finger Watch - the original (from The Puppet Masters by Robert Heinlein)
1942  Selector Card (from The Puppet Masters by Robert Heinlein)
1942  Flying Saucers - alien spacecraft (from Between Planets by Robert Heinlein)
1942  Half-Sphere Force Field - not an ordinary spherical force field (from Between Planets by Robert Heinlein)
1942  Martian Perambulator (from Between Planets by Robert Heinlein)
Directional Ticket - the ticket guides you (from Foundation by Isaac Asimov)
Gravitic Repulsion Elevator - going up (from Foundation by Isaac Asimov)
Calculator Pad - grandfather of the pocket calculator (from Foundation by Isaac Asimov)
The Jump - is travel through hyperspace possible? (from Foundation by Isaac Asimov)
Force-Field Penknife - origin of the Lightsaber? (from Foundation by Isaac Asimov)
Personal Force-Shield - earliest mention? (from Foundation by Isaac Asimov)
Pocket Nucleo-Bulb - better than those LED flashlights (from Foundation by Isaac Asimov)
Neuronic Whip - it delivers pain (from The Stars, Like Dust by Isaac Asimov)
Lunocycle (Lunar Bicycle) - better than Bessie the mule (from The Rolling Stones by Robert Heinlein)
Flat Cat (from The Rolling Stones by Robert Heinlein)
Nanny Robot - child-care robot with punch (from The Book of Philip K. Dick by Philip K. Dick)
Robot Cab Driver - everybody's got problems (from The Book of Philip K. Dick by Philip K. Dick)
Coiffest - coffee plus (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Monoline (from Big Planet by Jack Vance)
Panatrope - mutation for survival (from Surface Tension by James Blish)
Broomstick (from Islands in the Sky by Arthur C. Clarke)
Automatic Pilot - a brief history (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Space Beacon - variable star will guide you (from Troubled Star by George O. Smith)
Barytrine Field - planet moving (from Troubled Star by George O. Smith)
Prism Window - better plane window (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Compulsive Subsonics - ads dodge your cortex (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Gas Giant - coined a phrase (from Solar Plexus by James Blish)
Retinal Projection - put the ad right on the eyeball (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Mensurator - mental translation (from Troubled Star by George O. Smith)
Hilsch Vortex Tube - Maxwell's demon lives! (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Airplane Window Ads - ads on clouds (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Chicken Little - vat-grown protein (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Spot-Extractor Nostril Plugs (Antisoot Plugs) - breathe easier (from The Space Merchants by Frederik Pohl (w/CM Kornbluth))
Mechanical Hound - a fireman's best friend (from Fahrenheit 451 by Ray Bradbury)
Seashell Radio (Thimble Radios) - original walkman (or ear buds) (from Fahrenheit 451 by Ray Bradbury)
Electric-Eyed Snake (from Fahrenheit 451 by Ray Bradbury)
Green Bullet - carry your mentor with you (from Fahrenheit 451 by Ray Bradbury)
Claws (Guard Robot) - screamers! (from Second Variety by Philip K. Dick)
Parlor Wall (TV Parlor) - original big screen TV (from Fahrenheit 451 by Ray Bradbury)
Salamander - it was a pleasure to burn (from Fahrenheit 451 by Ray Bradbury)
Air-Propelled Train - silent mass transit (from Fahrenheit 451 by Ray Bradbury)
Spot-Wavex Scrambler - personalized mass media (from Fahrenheit 451 by Ray Bradbury)
Pocket Phone (or pocketphone) - invention of the cell phone (from Assignment in Eternity by Robert Heinlein)
Control Screen (from Childhood's End by Arthur C. Clarke)
Torchship - a tail of flame (from Sky Lift by Robert Heinlein)
Speedtalk (from Assignment in Eternity by Robert Heinlein)
Sound Analysis (from Assignment in Eternity by Robert Heinlein)
Big Flue (from Fahrenheit 451 by Ray Bradbury)
Permanent Skywriting (from Soap Opera by Alan Nelson)
Magnetic-Soled Shoes - required for space walks (from Space Tug by Murray Leinster)
Pushpot (from Space Tug by Murray Leinster)
Space Flight Simulator (from Space Tug by Murray Leinster)
Inflatable Air Lock - very early reference (from Space Tug by Murray Leinster)
The Shed - sf predecessor to the VAB (from Space Tug by Murray Leinster)
Spacecraft Ejection Seat (from Space Tug by Murray Leinster)
Zero-G Cups (from Space Tug by Murray Leinster)
Garbage Screen - chaff in space (from Space Tug by Murray Leinster)
Stardrive - not faster than light (from Childhood's End by Arthur C. Clarke)
R. Daneel Olivaw - I, robot (from Cavens of Steel by Isaac Asimov)
Sunlight Blocker (from Childhood's End by Arthur C. Clarke)
Gravity-Simulator Harness (from Space Tug by Murray Leinster)
Short-Wave Surgical Knife (from Boomerang by Eric Frank Russell)
Parking Orbit - take the qig down (from Starman Jones by Robert Heinlein)
Space Wagon (from Space Tug by Murray Leinster)
Ring Road - mag-lev old-style (from Starman Jones by Robert Heinlein)
Prime Radiant - the ultimate conference projector (from Second Foundation by Isaac Asimov)
Transcriber - an automated transcriptionist (from Second Foundation by Isaac Asimov)
Automatic Ticket Machine - your ticket to the stars (from Second Foundation by Isaac Asimov)
Lens Image (from Second Foundation by Isaac Asimov)
Preserving Machine (from The Preserving Machine by Philip K. Dick)
Reading Plate - 50's style flat panel (from The Star Beast by Robert Heinlein)
Radiation - just like RFID (from The Houses of Iztm by Jack Vance)
Compass Circuit (from Compass Circuit by John Wyndham)
Sales Robot (Robot Salesman) - a robot makes the sales pitch (from Sales Pitch by Philip K. Dick)
Retinal Vid-Screen - implanted news screen (from Sales Pitch by Philip K. Dick)
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>Commute Ship (from Sales Pitch by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1954</td>
<td>Visual Ad (from Sales Pitch by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1954</td>
<td>Anti-Gerasone - drink and look younger (from Tomorrow and Tomorrow by Kurt Vonnegut, Jr.)</td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>Truth Meter - a 50's lie detector (from The Star Beast by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>Boat-Tree (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>Copter Harness (from The Star Beast by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Radiant Shield (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Tri-Type Record - 3D reduced to two (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Universal Dictionary - grandfather of the electronic dictionary (from The Star Beast by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>House Trees (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Sentry Trees (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Mechanical Bride - woman or robot (from The Mechanical Bride by Fritz Leiber)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Plastilobe - variations in opacity (from Sales Pitch by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Tanglefoot Field - non-lethal crowd control (from The Star Beast by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>Feeler-Planes - sensors for 3D models (from The Houses of Iszm by Jack Vance)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Scout-Base (from Diabolic by Eric Frank Russell)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Schriebier Analyzer (from Diabolic by Eric Frank Russell)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Diabolical Armory (from Diabolic by Eric Frank Russell)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Monocab (from Earthlight by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Central City (Lunar Habitat) (from Earthlight by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Autofac (Nanorobots) - a factory that can replicate itself (from Autofac by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Robot Gardener - gardening robot (from War Veteran by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Robot Surgeon-Hand - attached at the wrist (from War Veteran by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Ramsbotham Gate - wormhole (from Tunnel in the Sky by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Swibble - mind control machine (from Service Call by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Dental Switchboard - tongue switching (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Bounce Tube - pneumatic tube system for people (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Eetee (E.T - extraterrestrial) (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Analogue - devolution through chemistry (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Refurbished Nervous System - rewired for speed (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Sympathetic Block - psychological privacy (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Maximum-security Booth - high security phone system (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>PyrE - thought explosive (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Internal Body Power Pack - AAAAAAAA size (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Jaunte Stage - a little space to teleport (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Sargasso Asteroid - scavenger planetoid (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Robot Bartender (from The Stars My Destination by Alfred Bester)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Hush Corner - noise reduction (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Hired Girl - robotic floor maintenance (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Central Computer (from The City and the Stars by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Precime Analytical Wing - precogs babble, machines tabulate (from The Minority Report by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Human Object Recognition - people making robotic life easier (from The Velvet Glove by Harry Harrison)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Matter Organizer (from The City and the Stars by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Saga - very early virtual reality reference (from The City and the Stars by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Diaspar Memory - everyone gets a copy (from The City and the Stars by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Undercover Detective Robot - who am I? (from The Velvet Glove by Harry Harrison)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Vacutubes (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Starborn (Cold Sleep, Hibernation) (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Precog - see the future (from The Minority Report by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Window-Willie - robot help for dirty windows (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Universal Checkbook - radioactive checking (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Drafting Dan - born before CAD (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Eager Beaver - your friendly robot helper (from The Door Into Summer by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Blue Collar Bot (from The Velvet Glove by Harry Harrison)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Planet-Buster Bomb - destroy a planet (from Testing by J.J. Ferrat)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Solido (from Chance of a Lifetime by Milton Lesser)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Tea kettle - booster rocket (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Cider Press - acceleration made bearable (from Double Star by Robert Heinlein)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Post-Crime - you're still a criminal (from The Minority Report by Philip K. Dick)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Drac Transmitter (also Tranceiver or Communicator) - instant communication (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Tin Cabby (Tin Cabbage) - mechacab (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Inter-Universal Messenger (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Space Armor (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>City Fathers - AI with centuries of experience (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Toposcope (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Teleoperated Lab Robot (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Accelerated Schooling (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Spinalizer - pick up your town and go (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Glass Bees - tiny automatons (from The Glass Bees by Ernst Junger)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Proselytizing Robot (from Cities in Flight by James Blish)</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>Fenton Silencer - early noise cancellation (from Tales from the White Hart by Arthur C. Clarke)</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Invention Description</td>
<td>Author/Book Details</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1957</td>
<td>Magnetic Control of Nebulae - by alien beings</td>
<td>(from The Black Cloud by Fred Hoyle)</td>
</tr>
<tr>
<td>1957</td>
<td>Storer-Gulls Wings - recreation for lunar colonists</td>
<td>(from The Menace From Earth by Robert Heinlein)</td>
</tr>
<tr>
<td>1957</td>
<td>Molecular Sieve</td>
<td>(from Tales from the White Hart by Arthur C. Clarke)</td>
</tr>
<tr>
<td>1959</td>
<td>Melamem - live in a robot body</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1961</td>
<td>Police Experimental Robot - a rookie bot</td>
<td>(from Arm of the Law by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Nose Gun</td>
<td>(from Arm of the Law by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Hypo Arm - tentacle with a needle</td>
<td>(from Simulated Trainer by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Asteroid Mining</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1959</td>
<td>Cone of Silence - the original sound-dampener</td>
<td>(from Cease Fire by Frank Herbert)</td>
</tr>
<tr>
<td>1960</td>
<td>Particulate Light of paralysis</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1961</td>
<td>Flexible Wall Sheet Display - flexy flat panel</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1959</td>
<td>Palm Plate - your hand is the key</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1961</td>
<td>Impactor Determines Composition</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1961</td>
<td>Life Detector - I see you!</td>
<td>(from Cease Fire by Frank Herbert)</td>
</tr>
<tr>
<td>1961</td>
<td>Self-Service Cafeteria</td>
<td>(from The Mechanical Monarch by E.C. Tubb)</td>
</tr>
<tr>
<td>1961</td>
<td>Espionage Machine - reading minds scientifically</td>
<td>(from No, No, Not Rogov! by Cordwainer Smith)</td>
</tr>
<tr>
<td>1961</td>
<td>Life Detector Shield - an early mention of life sensors</td>
<td>(from Cease Fire by Frank Herbert)</td>
</tr>
<tr>
<td>1961</td>
<td>Message Tree - communication standard for a world</td>
<td>(from A Case of Conscience by James Blish)</td>
</tr>
<tr>
<td>1961</td>
<td>Robot Spectra Analyzer</td>
<td>(from The Repairman by Harry Harrison)</td>
</tr>
<tr>
<td>1959</td>
<td>Flying Eye - I see you</td>
<td>(from The Repairman by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Talking Bomb - psych warfare</td>
<td>(from Starship Troopers by Robert Heinlein)</td>
</tr>
<tr>
<td>1960</td>
<td>Hands Free Helmet - chin up</td>
<td>(from Starship Troopers by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Powered Armor (or Powered Suit) - military exoskeleton</td>
<td>(from Starship Troopers by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Mark IV Door Keeping Robot - automated rejection</td>
<td>(from The Man Who Could Not Stop by A. Bertram Chandler)</td>
</tr>
<tr>
<td>1961</td>
<td>Hyperspace Beacon - find your way between the stars</td>
<td>(from The Repairman by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Personality Death - you're dead to yourself</td>
<td>(from Robot Justice by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Robot Judge - before Dred</td>
<td>(from Robot Justice by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Magnetically Floating Furniture - like sitting on a cloud</td>
<td>(from The Sirens of Titan by Kurt Vonnegut)</td>
</tr>
<tr>
<td>1961</td>
<td>Grass Carpet</td>
<td>(from The Sirens of Titan by Kurt Vonnegut)</td>
</tr>
<tr>
<td>1961</td>
<td>Memo-Voice</td>
<td>(from War Game by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Toy Testing Dummy</td>
<td>(from War Game by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Robotic Trash Can - watch it</td>
<td>(from Robot Justice by Harry Harrison)</td>
</tr>
<tr>
<td>1961</td>
<td>Vulcan 3 - endless self-modifying computer</td>
<td>(from Vulcan's Hammer by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Transdermal Drug Capsule - slap it on</td>
<td>(from Vulcan's Hammer by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Interactive Blackboard</td>
<td>(from Vulcan's Hammer by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Robot Tracking Device - preferred surveillance tool of AIs</td>
<td>(from Vulcan's Hammer by Philip K. Dick)</td>
</tr>
<tr>
<td>1961</td>
<td>Starlight Sail (Light Sail) - very early reference</td>
<td>(from The Lady Who Sailed The Soul by Cordwainer Smith)</td>
</tr>
<tr>
<td>1961</td>
<td>Virtual Reality Construct - VR without headgear</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Interactive Map - very early concept</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Dimensio - alien entertainment center</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Taper - interstellar portable</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Butcher Plant - a plant that grows steaks</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Star Machine - explore the stars</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Transo - teleportation</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Reciprocal Name - cellphone nickname</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Lector - be read to</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Crystal Corn - tiny crystal books</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Betrization</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Teleprinter</td>
<td>(from Four-Day Planet by H. Beam Piper)</td>
</tr>
<tr>
<td>1961</td>
<td>Recording Radio</td>
<td>(from Four-Day Planet by H. Beam Piper)</td>
</tr>
<tr>
<td>1961</td>
<td>Transmit Camera</td>
<td>(from Four-Day Planet by H. Beam Piper)</td>
</tr>
<tr>
<td>1961</td>
<td>Carniculture Plants - grow your own meat</td>
<td>(from Four-Day Planet by H. Beam Piper)</td>
</tr>
<tr>
<td>1961</td>
<td>Parasitics</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Sky Ceiling - long before Hogwarts</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Hunting Robe - a very thin hunting dog</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Jump Harness - rocket pack</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Living Grass Carpet - not AstroTurf</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Stereovision - 3D TV tank (and first screen saver)</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Ilooo Inflatable Moon Habitat - inflate and use</td>
<td>(from A Fall of Moon dust by Arthur C. Clarke)</td>
</tr>
<tr>
<td>1961</td>
<td>Electros turretary - automatic transcription machine</td>
<td>(from A Fall of Moon dust by Arthur C. Clarke)</td>
</tr>
<tr>
<td>1961</td>
<td>Grok - a Martian sees and knows</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Moondover - moonmover</td>
<td>(from A Fall of Moon dust by Arthur C. Clarke)</td>
</tr>
<tr>
<td>1961</td>
<td>Screensaver (Invention of)</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Space Tank - 2D TV receiver</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Gobathian - full body healing</td>
<td>(from Time is the Simplest Thing by Clifford Simak)</td>
</tr>
<tr>
<td>1961</td>
<td>Calster - portable cash printer</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Spray-On Clothing - dresses in a can</td>
<td>(from Return from the Stars by Stanislaw Lem)</td>
</tr>
<tr>
<td>1961</td>
<td>Reading Machine - read while reclining</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Waterbeds (new beds) - a waterbed</td>
<td>(from Stranger in a Strange Land by Robert Heinlein)</td>
</tr>
<tr>
<td>1961</td>
<td>Carniculture Vat - cultured meat</td>
<td>(from Space Viking by H. Beam Piper)</td>
</tr>
<tr>
<td>1962</td>
<td>Diamagnetic Levitation</td>
<td>(from The Currents of Space by Arthur C. Clarke)</td>
</tr>
<tr>
<td>1962</td>
<td>Plastex</td>
<td>(from The Thousand Dreams of Stellavista by J.G. Ballard)</td>
</tr>
</tbody>
</table>
Veridicator - lie detector that works (from Little Fuzzy by H. Beam Piper)
Light Sail (or Solar Sail) - propulsion for spacecraft (from Sail 25 by Jack Vance)
Laminated Mouse Brain Computer - extra fast computer (from Think Blue, Count Two by Cordwainer Smith)
Psychotropic House (from The Thousand Dreams of Stellavista by J.G. Ballard)
Senso-Cells - read the quirks (from The Thousand Dreams of Stellavista by J.G. Ballard)
Static Home - frozen personality (from The Thousand Dreams of Stellavista by J.G. Ballard)
Celestial Armamentarium - the mechanism of star movements (from The Dragon Masters by Jack Vance)
Robot Librarian Filer (from The Robot Who Wanted to Know by Harry Harrison)
Tand - an abstract venerated sculpture (from The Dragon Masters by Jack Vance)
Robot Earthworm - spaghettibot (from War With The Robots by Harry Harrison)
Cataclysmite - high explosive (from Little Fuzzy by H. Beam Piper)
Luminescent Vial - Galadriel gave these out in LOTR (from The Dragon Masters by Jack Vance)
Fold Box (from Glory Read by Robert Heinlein)
Unicephalon 40-D - yes, mr. president (from Stand-By by Philip K. Dick)
News Clown - they're all the rage (from Stand-By by Philip K. Dick)
Homeostatic Newspaper - a homeopape (from If There Were No Benny Cemoli by Philip K. Dick)
Way Station - galactic station master (from Way Station by Clifford Simak)
Talisman - focus on your hopes (from Way Station by Clifford Simak)
Rifle Range - virtual skeet shooting designed by aliens (from Way Station by Clifford Simak)
Free Telephone Call (from The Subliminal Man by J.G. Ballard)
Subliminal Billboards (from The Subliminal Man by J.G. Ballard)
Frictionless Surface - no stick before teflon (from Way Station by Clifford Simak)
Ice-Nine - the final form of water (from Cat's Cradle by Kurt Vonnegut)
Universal Technical Consultative Service (from The Star King by Jack Vance)
Single Seat Scooter (from The Star King by Jack Vance)
Truffle Skins - genetically unique money (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Visi-Sonor - emotional brain multi-media (from Foundation and Empire by Isaac Asimov)
Skin Toning (from The Star King by Jack Vance)
Interchangeable Hands - mechanical variety (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Jet-Powered Aquaplane (from The Star King by Jack Vance)
Stick-Tight (from The Star King by Jack Vance)
Identifierator - holographic signage (from The Star King by Jack Vance)
Dr. Smile - psychiatrist in a suitcase (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Color Generator (from The Killing Machine by Jack Vance)
Fake-Meter (from The Killing Machine by Jack Vance)
Walking Fort - a fort with robotic legs (from The Killing Machine by Jack Vance)
Flexible Stem (from The Killing Machine by Jack Vance)
Perky Pat Microworld - playset for grownups (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Luxvid Eyes (Jensen Wide-Angle) - unusual eye slits (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Steel Teeth - all stainless (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Bubblehead - big-head brainiacs (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Undersea Restaurant (from The Star King by Jack Vance)
Chairdog - the ultimate ergonomic chair (from The Tactful Saboteur by Frank Herbert)
Chalf (Quick-Scribe Powder) - wave the stick (from The Tactful Saboteur by Frank Herbert)
Commuter Cooling Unit - portable air conditioning (from The Three Stigmata of Palmer Eldritch by Philip K. Dick)
Courtarena - trial by fire (from The Tactful Saboteur by Frank Herbert)
Battery-Powered 3D Comic Book (from The Zap Gun by Philip K. Dick)
Civic Notification Distorter - bit-rot weaponry (from The Zap Gun by Philip K. Dick)
Crysknife - knife from a sandworm's tooth (from Dune by Frank Herbert)
Fencing Mirror - fencing instructor (from Dune by Frank Herbert)
Thopter - wing-beat plane (from Dune by Frank Herbert)
Stunner - freeze! (from Dune by Frank Herbert)
Semuta - eerie music (from Dune by Frank Herbert)
Message Cylinder - locked capsule (from Dune by Frank Herbert)
N-2 (Needle-eye-fication) Weapon - absolute positioning precision (from The Zap Gun by Philip K. Dick)
Death-rattle File (from The Zap Gun by Philip K. Dick)
Shigawire - high tensile strength wire (from Dune by Frank Herbert)
Sheep Dip Isolator (from The Zap Gun by Philip K. Dick)
Autonomic Interviewer - pape's proxy (from The Zap Gun by Philip K. Dick)
Ramcoop - pull in hydrogen (from World of Paws by Larry Niven)
Palm Lock - uses more than a fingerprint (from Dune by Frank Herbert)
Suspensor - suspend gravity (from Dune by Frank Herbert)
Plasteel - tough metal for tough times (from Dune by Frank Herbert)
Remote-Cast Snooper (from Dune by Frank Herbert)
Posion Snooper (from Dune by Frank Herbert)
Wakeshot (from Dune by Frank Herbert)
Dispensing Tooth - remember the tooth (from Dune by Frank Herbert)
Heilgitter (from Dune by Frank Herbert)
Slow Pellet Stunner (from Dune by Frank Herbert)
1965 Handi closet - self-organizing (from The Zap Gun by Philip K. Dick)
1965 Water Repellent Surface - non-wetting surface (from Dune by Frank Herbert)
1965 Cellphone Voice Mail - very early use of concept (from The Age of The Pussyfoot by Frederik Pohl)
1965 Battle Language (from Dune by Frank Herbert)
1965 Gloguloke - the original track lighting (from Dune by Frank Herbert)
1965 Paracompass - detects local magnetic anomalies (from Dune by Frank Herbert)
1965 Jubba Cloak (from Dune by Frank Herbert)
1965 Minimic Film one micron thick recording medium (from Dune by Frank Herbert)
1965 Garbage-can Banger (from The Zap Gun by Philip K. Dick)
1965 Cephalic Pattern Door (from The Zap Gun by Philip K. Dick)
1965 Residual Poison (from Dune by Frank Herbert)
1965 Still suit - when you want water retention (from Dune by Frank Herbert)
1965 Cellphone Tranquilizing Spray (from The Age of The Pussyfoot by Frederik Pohl)
1965 Lasgun - laser weapon (from Dune by Frank Herbert)
1965 Virtual Kiss (Tactile Net) - affection by wire (from The Age of The Pussyfoot by Frederik Pohl)
1965 Cardioplate (from 'Recent Harlequin Said the Ticktockman by Harlan Ellison)
1966 Kingdom in a Box (from The Cyberiad: Fables for the Cybernetic Age by Stanislaw Lem)
1966 Electronic Bard (from The Cyberiad: Fables for the Cybernetic Age by Stanislaw Lem)
1966 Interests Profile - an intelligent agent (from The Age of The Pussyfoot by Frederik Pohl)
1966 Cellphone Credit Card - mobile phone wallet (from The Age of The Pussyfoot by Frederik Pohl)
1966 Corpsticle - thaw and fix (from The Age of The Pussyfoot by Frederik Pohl)
1966 Call List - very early use (from The Age of The Pussyfoot by Frederik Pohl)
1966 Golden Lights - track lighting without the track (from Dune by Frank Herbert)
1966 Suspensor Chair - ultimate office chair (from Dune by Frank Herbert)
1966 Pain Box - testing for humans (from Dune by Frank Herbert)
1966 Suspensor Lamp - descendant of the lava lamp (from Dune by Frank Herbert)
1966 Dekon Type DCQ (from Subspace Explorers by E.E. 'Doc' Smith)
1966 Lebyrdite - Perfect for space axes (from Subspace Explorers by E.E. 'Doc' Smith)
1966 Sandsnork - breathe under sand (from Dune by Frank Herbert)
1966 Joymaker - the ultimate PDA (from The Age of The Pussyfoot by Frederik Pohl)
1966 Chromoplastic Dew Collector - when every drop counts (from Dune by Frank Herbert)
1966 Robot Bar - ancestor of R2D2 (from Bill the Galactic Hero by Harry Harrison)
1966 Krimskell Fiber - better than zip strips (from Dune by Frank Herbert)
1966 Fannmetal - build temporary shelters (from Dune by Frank Herbert)
1966 Ego-Likeness - a true portrait (from Dune by Frank Herbert)
1966 Huskakeeper - floats like a butterfly... (from Dune by Frank Herbert)
1966 Distrans - talk to the animals (from Dune by Frank Herbert)
1966 Online Job Search - via cellphone (from The Age of The Pussyfoot by Frederik Pohl)
1966 Cutteray - mining laser (from Dune by Frank Herbert)
1966 Carryall - giant ornithopter (from Dune by Frank Herbert)
1966 Solido Projector - envy of presenters (from Dune by Frank Herbert)
1966 Online Employability Profile Testing - get the right job first (from The Age of The Pussyfoot by Frederik Pohl)
1966 Stilttent - a tent that distills water (from Dune by Frank Herbert)
1966 Thumper - rhythmic vibration (from Dune by Frank Herbert)
1966 Windtrap - pure water source (from Dune by Frank Herbert)
1966 Ornithopter - flies like a bird (from Dune by Frank Herbert)
1966 Oil Lens - infinitely adjustable lens (from Dune by Frank Herbert)
1966 Filament Paper Book - small for space travel (from Dune by Frank Herbert)
1966 Doorseal - retain moisture (from Dune by Frank Herbert)
1966 Factory Crawler (or Harvester Crawler) - silt the sands of Arrakis (from Dune by Frank Herbert)
1966 Squat Skimmer Treatment (from This Immortal by Roger Zelazny)
1966 Photosensitive Pigment (from Cry Hope, Cry Fury! by J.G. Ballard)
1966 Sand-Yacht (Land Schooner) (from Cry Hope, Cry Fury! by J.G. Ballard)
1966 Cloaking Device - invisibility for your whole ship (from Balance of Terror by Paul Schneider)
1966 Gauzy - a tent whose fabric is one molecule thick. (from This Immortal by Roger Zelazny)
1966 Rolem (Wrestling Robot) - robot wrestler (from This Immortal by Roger Zelazny)
1966 Radson Skimmer (from This Immortal by Roger Zelazny)
1966 Extra-Factual Memory - an implanted memory (from We Can Remember It For You Wholesale by Philip K. Dick)
1966 Laser Rifle - earliest use of term (from Door to Anywhere by Poul Anderson)
1966 Mass-Driven Catapult - mass driver for the Moon (from The Moon is a Harsh Mistress by Robert Heinlein)
1966 TANSTAAFL - and there isn't (from The Moon is a Harsh Mistress by Robert Heinlein)
1966 Cyborg - man plus machine (from The Moon is a Harsh Mistress by Robert Heinlein)
1966 Mike (Fair Dinkum Thinkum) - artificial intelligence early on (from The Moon is a Harsh Mistress by Robert Heinlein)
1966 Hush Hood - privacy when you need it (from The Moon is a Harsh Mistress by Robert Heinlein)
1966 Erased Memory - forget about it (from We Can Remember It For You Wholesale by Philip K. Dick)
1966 Telepathic Transmitter (Tele-transmitter) (from We Can Remember It For You Wholesale by Philip K. Dick)
1966 Artificial Gift Outfit (from We Can Remember It For You Wholesale by Philip K. Dick)
1966 Ansible - the ultimate long distance phone (from Rocannon's World by Ursula LeGuin)
1966 Tru-Mem Systems (from We Can Remember It For You Wholesale by Philip K. Dick)
1966 Pray-Machine - megawatts of prayer (from Lord of Light by Roger Zelazny)
1966 Embryonic Robots - early sci-fi nanobots? (from Counter Clock World by Philip K. Dick)
1967  Syrup Sac - kind of like those gravity flow beer hats (from The Last Castle by Jack Vance)
1967  Cloud Sculpting - remake the clouds (from The Cloud Sculptors of Coral D by J.G. Ballard)
1967  Organlegging - first mention of organ smuggling (from The Jigsaw Man by Larry Niven)
1967  Shuttlecraft (from Star Trek by Author Unknown)
1967  Power Wagon - legless beast of burden (from The Last Castle by Jack Vance)
1967  Mining Disintegrator (from The Arsenal Out of Time by David MacDaniel)
1967  Mechanical Cobra - stilt and destroy (from Lord of Light by Roger Zelazny)
1967  Scientific Reincarnation (from Lord of Light by Roger Zelazny)
1967  Pray-o-Mat - coin-based religion (from Lord of Light by Roger Zelazny)
1968  Palm Skinner (from Logan's Run by William Nolan (w/d C. Johnson))
1968  Hibernaculum - nap time (from 2001: A Space Odyssey by Arthur C. Clarke)
1968  Replicant - an artificial human (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1968  Sleeping Plates - null gravity as a sleep aid (from Neutron Star by Larry Niven)
1968  Babel-17 - words are telling (from Babel 17 by Samuel R. Delany)
1968  Slow Glass (Scenedow) - a scendow for your apartment (from Light of Other Days by Bob Shaw)
1968  Artificially Grown Organs (from A Gift From Earth by Larry Niven)
1968  Architectural Coral - build to any shape (from A Gift From Earth by Larry Niven)
1968  Electric Sheep - livestock as consumer electronics (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1968  HAL 9000 - prototypical AI (from 2001: A Space Odyssey by Arthur C. Clarke)
1968  Andy - an artificial human (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1968  TMA-1 - the Tycho monolith (from 2001: A Space Odyssey by Arthur C. Clarke)
1968  Newspad - flat panel news display (from 2001: A Space Odyssey by Arthur C. Clarke)
1968  Mobile Lab (from 2001: A Space Odyssey by Arthur C. Clarke)
1969  Total Environmental and Mental Simulator - accelerated machine intelligence (from Crown of Infinity by John M. Faucette)
1969  Ramrobot - automated space exploration (from A Gift From Earth by Larry Niven)
1969  Decorative Implant - gadget surgery (from Babel 17 by Samuel R. Delany)
1969  Kipple - non-recycled paper (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1969  Mood Organ - play your partner (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1969  Stasis Field (from There is a Tide by Larry Niven)
1969  Stasis Box - infinite storage (from There is a Tide by Larry Niven)
1969  Titanium Exoskeleton - conquer gravity (from A Specter is Haunting Texas by Fritz Leiber)
1969  Charonian Exoskeleton - exoskeleton accessory (from A Specter is Haunting Texas by Fritz Leiber)
1969  Cyborg Collar - controlled work gangs (from A Specter is Haunting Texas by Fritz Leiber)
1969  Voight-Kampff Empathy Test - can you pass? (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1969  Nexus-6 Brain Unit - meet my friend Roy (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1969  Empathy Box - TV for your emotional brain (from Do Androids Dream of Electric Sheep? by Philip K. Dick)
1969  Penfield Wave Transmitter - an emotional brain remote control (from A Gift From Earth by Larry Niven)
1969  Mining Worm (from A Gift From Earth by Larry Niven)
1969  Flexible Armor Suit - now you're Superman (from Neutron Star by Larry Niven)
1969  Teddy (from Super-Toys Last All Summer Long by Brian Aldiss)
1969  Tranquilizing Gum (from Ubik by Philip K. Dick)
1969  Artificor (from Ubik by Philip K. Dick)
1969  Sniggertrance - caught between the stars (from Whipping Star by Frank Herbert)
1969  Parenthood Lottery (from Super-Toys Last All Summer Long by Brian Aldiss)
1969  Window Wavelength (from Super-Toys Last All Summer Long by Brian Aldiss)
1969  Book of the Kalends - no author, no title (from Galactic Pot-Hearer by Philip K. Dick)
1969  Crosswell Tape Worm (from Super-Toys Last All Summer Long by Brian Aldiss)
1969  Webloom Cradle (from The Man in the Maze by Robert Silverberg)
1969  Padre Booth (from Galactic Pot-Hearer by Philip K. Dick)
1969  Geriatric Rooming-House - swept aside (from Galactic Pot-Hearer by Philip K. Dick)
1969  Weightless Work Area - the ideal workbench (from Galactic Pot-Hearer by Philip K. Dick)
1969  SSA Machine (from Galactic Pot-Hearer by Philip K. Dick)
1969  Axolotl Tank - device for regeneration (from Dune Messiah by Frank Herbert)
1969  Tleilaxu Eyes (Metal Eyes) - insectile mechanical eyes (from Dune Messiah by Frank Herbert)
1969  Ghola - night of the living Duncan (from Dune Messiah by Frank Herbert)
1969  Jumpdoor - entrance to the rabbit hole (from Whipping Star by Frank Herbert)
1969  Gravity Web - keep gravity to a minimum (from Whipping Star by Frank Herbert)
1969  Calliban Beachball - home to the stars (from Whipping Star by Frank Herbert)
1969  Automatic Gun - targets without human intervention (from The Andromeda Strain by Michael Crichton)
1969  Vortal Tube (from Whipping Star by Frank Herbert)
1969  Homopape - news just you can use (from Ubik by Philip K. Dick)
1969  Disruptor Bomb (from The Man in the Maze by Robert Silverberg)
1969  Recording Eye - interplanetary surveillance (from The Man in the Maze by Robert Silverberg)
1969  Page Machine - name your news (from Ubik by Philip K. Dick)
1969  Ident Darts - track your mind (from The Electric Ant by Philip K. Dick)
1969  Psycho-Lease Encephalic Gadget (from Galactic Pot-Hearer by Philip K. Dick)
1969  Ersatz Window - fake view of outside (from Galactic Pot-Hearer by Philip K. Dick)
1969
Rapid-Transit Hover Blimp (from Galactic Pot-Healer by Philip K. Dick)
1969
Robotic Horse - magical (from The Warlock in Spite of Himself by Christopher Stasheff)
1969
Float-home - living houseboat (from Whipping Star by Frank Herbert)
1969
Spray-Foam Blouse - spray and wear (from Galactic Pot-Healer by Philip K. Dick)
1969
Pseudoflesh - key to boneless meat (from Whipping Star by Frank Herbert)
1969
Flycycle - if a Harley could fly (from Ringworld by Larry Niven)
1969
Tower of Glass - SETI architecture (from Tower of Glass by Robert Silverberg)
1969
Transmat - instant transport (from Tower of Glass by Robert Silverberg)
1969
Electromagnetic Cannon (from Ringworld by Larry Niven)
1969
Osmosis Generator (Czillang Brone) - the air lock (from Ringworld by Larry Niven)
1969
Flash Balloons (from Ringworld by Larry Niven)
1969
Shadow Square Wire (from Ringworld by Larry Niven)
1969
Stepping Discs - open teleportation pads (from Ringworld by Larry Niven)
1969
Jack In - first use of term (from Tower of Glass by Robert Silverberg)
1969
General Products Hull (from Ringworld by Larry Niven)
1969
Sleep Set (Sleep Headset) (from Ringworld by Larry Niven)
1969
Sigfrid von Shrink - computer shrink (from Gateway by Frederik Pohl)
1969
Drinking Bulb - best drinking container (from Ringworld by Larry Niven)
1969
Variable Sword - better than Ginsu (from Ringworld by Larry Niven)
1969
Tasp - right where you live (from Ringworld by Larry Niven)
1969
Scith - tensile strength (from Ringworld by Larry Niven)
1969
Ringworld - sun-girdling artifact (from Ringworld by Larry Niven)
1969
Refrigertation Tape - ground cooling (from Ringworld by Larry Niven)
1969
Inert-Wear - unfashionably static (from Say Goodby to the Wind by J.G. Ballard)
1969
Bio-Fabric - living cloth (from Say Goodby to the Wind by J.G. Ballard)
1969
Slaver Disintegrator - ultimate plasma arc tool (from Ringworld by Larry Niven)
1969
Translator Discs (from Ringworld by Larry Niven)
1969
Stepping Discs - open teleportation pads (from Ringworld by Larry Niven)
1969
Autodoc - automated medical device (from Ringworld by Larry Niven)
1969
PrintLight Laser (from Ringworld by Larry Niven)
1969
Sonic Fold (from Ringworld by Larry Niven)
1969
Selektrogel (from And All The Stars A Stage by James Blish)
1969
Launching Laser - power your craft with light (from The Fourth Profession by Larry Niven)
1969
Impact Suit - shear-thickening armor (from The Flying Sorcerers by David Gerrold (w/L, Niven))
1969
Skin Suit - a second skin (from Dinosaur Beach by Keith Laumer)
1969
Robot Pope - Ubi et Orbi et Digit (from Good News from the Vatican by Robert Silverberg)
1969
Pocket Display Projector - a nano-projector (from The Anome by Jack Vance)
1969
Verse Transcriber (from Studio 5, The Stars by J.G. Ballard)
1969
Crechepod - full life support (from The Godmakers by Frank Herbert)
1969
Implanted Transceiver - totally hands free phone (from The Godmakers by Frank Herbert)
1969
Go-Buggy (from The Godmakers by Frank Herbert)
1969
Transmit-Paper - first use of this idea (from The Godmakers by Frank Herbert)
1969
Tracker - clears smog (from Eurema's Dom by R.A. Lafferty)
1969
Atlotl/Gibiril Regimen - regrow and rejuvenate (from The Godmakers by Frank Herbert)
1969
Spider Tripod Robot - three-legged cleaning bot (from Rendezvous With Rama by Arthur C. Clarke)
1969
Selectacol - automating interior design (from The Godmakers by Frank Herbert)
1969
Polawindow - change lighting instantly (from The Godmakers by Frank Herbert)
1969
Chemical Orders (from Hellstrom's Hive by Frank Herbert)
1969
Procreative Slump (from Hellstrom's Hive by Frank Herbert)
1969
Nightmask (from Hellstrom's Hive by Frank Herbert)
1969
Sunwand (from Hellstrom's Hive by Frank Herbert)
1969
King's Free Park - a long narrow park (from Cloak of Anarchy by Larry Niven)
1969
Watchdog (Watchdog) - guardian for a planet (from Watchdog by Jack C. Haldeman)
1969
Bionic Arm - $6M man arm (from Cyborg by Martin Caidin)
1969
Rotating House - turn the salon (from The Godmakers by Frank Herbert)
1969
Newspaper Gear (from Flash Crowd by Larry Niven)
1969
Flash Crowd (Flash Mob) - or flash mob (from Flash Crowd by Larry Niven)
1969
Displacement Booth - instant transport via teleportation (from Flash Crowd by Larry Niven)
1969
Cosysurveillance drone (from Cloak of Anarchy by Larry Niven)
1969
Key Club - by booth id only (from Flash Crowd by Larry Niven)
1969
Implant-Watch - this is so cool (from Cloak of Anarchy by Larry Niven)
1969
Bionic Legs (from Cyborg by Martin Caidin)
1969
Isle - first intelligent ship brain (from Long Shot by Vernor Vinge)
1969
Cyborg (from Cyborg by Martin Caidin)
1969
Softener Key (from Protector by Larry Niven)
1969
Ram Field - tweaked Bussard Ramjet (from Protector by Larry Niven)
1969
Slowboat (from Protector by Larry Niven)
1969
Gravity Lens - see the stars (from Protector by Larry Niven)
1969
Twing - twin by NASA (from Protector by Larry Niven)
1969
Welton Cube - fine grain storage (from Time Enough For Love by Robert Heinlein)
1969
Decibel Alarms - shhh! we're protesting (from A Bridge for Pegasus by Anne McCaffrey)
1969
Acceleration Shell (from The Forever War by Joe Haldeman)
1969
Talking Pamphlet - maybe too convenient (from Ellison Wonderland by Harlan Ellison)
1974  
**Powered Suit with Trauma Maintenance** (from The Forever War by Joe Haldeman)

1974  
**Projection Commercials - 3D advertisements** (from The Computer Connection by Alfred Bester)

1974  
**Time Dingbat - time machine welfare** (from The Computer Connection by Alfred Bester)

1976  
**Molemen** (from The Computer Connection by Alfred Bester)

1976  
**Projection - be in two places at once** (from The Computer Connection by Alfred Bester)

1976  
**Alderson Point - a wormhole to the stars** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Superconductor of Heat** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Pressor Field** (from The Forever War by Joe Haldeman)

1976  
**Skull Bug - implanted RFID monitor** (from The Computer Connection by Alfred Bester)

1976  
**Collapsar Jump** (from The Forever War by Joe Haldeman)

1976  
**Assault Ship** (from The Forever War by Joe Haldeman)

1976  
**Pocket Computer - a PDA** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Tramline** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Langston Field - energy shield** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Acceleration Couch** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Gee Bath - waterbeds for space craft** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1975  
**Laser Cannon - ground-based power for space craft** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Atmosphere Control** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1976  
**Metal Paste** (from The Mote in God's Eye by Larry Niven (w/J. Pournelle))

1975  
**Coley Group** (from Shockwave Rider by John Brunner)

1976  
**Electronic Voting** (from Shockwave Rider by John Brunner)

1976  
**Modded Dog** (from Shockwave Rider by John Brunner)

1976  
**Paid Avoidance Zone - primitive on purpose** (from Shockwave Rider by John Brunner)

1976  
**Hearing Aid - someone to listen** (from Shockwave Rider by John Brunner)

1976  
**Autoprefixer - personal baggage handler** (from Shockwave Rider by John Brunner)

1976  
**Data-Retrieval Mode - data recovery for brains** (from Shockwave Rider by John Brunner)

1976  
**Personal Smelter - make your own ingot** (from Shockwave Rider by John Brunner)

1976  
**Electric Skillet** (from Shockwave Rider by John Brunner)

1976  
**Computer Worm (Tapeworm) - first use of the concept** (from Shockwave Rider by John Brunner)

1976  
**Delphi Pool** (from Shockwave Rider by John Brunner)

1976  
**Landspeeder - the future of hovercraft** (from Star Wars by George Lucas)

1976  
**Gravity-assisted Subway - the shortest possible distance** (from A World Out of Time by Larry Niven)

1976  
**RUMOKO - island builder** (from My Name is Legion by Roger Zelazny)

1976  
**Hyperspace robot telefactor** (from My Name is Legion by Roger Zelazny)

1976  
**3D 'Chess' Game Board - let the wookie win** (from Star Wars by George Lucas)

1976  
**T.I.E. Fighter (Tie Fighter) - the bane of the rebel resistance in Star Wars** (from Star Wars by George Lucas)

1976  
**Sensor Arm** (from Star Wars by George Lucas)

1976  
**R2-D2 (Artoo-Detoo) - the original** (from Star Wars by George Lucas)

1976  
**Remote (or Seeker Remote) - Jedi training device** (from Star Wars by George Lucas)

1976  
**Deflector Shield** (from Star Wars by George Lucas)

1976  
**Supralight Drive** (from Star Wars by George Lucas)

1976  
**Deathstar - that's no moon** (from Star Wars by George Lucas)

1976  
**Lunar Disneyland - underground playground** (from The Phantom of Kansas by John Varley)

1976  
**Vagabont** (from Star Wars by George Lucas)

1976  
**Escape Pod - check the pod, Darth** (from Star Wars by George Lucas)

1976  
**Comlink** (from Star Wars by George Lucas)

1976  
**Droid - lucas trademark** (from Star Wars by George Lucas)

1976  
**Lightsaber - the original light saber** (from Star Wars by George Lucas)

1976  
**Sandcrawler - jawa condo** (from Star Wars by George Lucas)

1976  
**Womb Room - return to the control room** (from A World Out of Time by Larry Niven)

1976  
**RNA Shots - don't read Cliff notes; eat Cliff** (from A World Out of Time by Larry Niven)

1976  
**Empty Man - a body ready for a mind** (from A World Out of Time by Larry Niven)

1976  
**Biological Package Probe - automation Johnny Appleseed** (from A World Out of Time by Larry Niven)

1976  
**Restraining Bolt - keeps robots in check** (from Star Wars by George Lucas)

1976  
**Bubble Car - does it come in moire?** (from A World Out of Time by Larry Niven)

1976  
**Dog Suit - costumes for aliens that work** (from Doorways in the Sand by Roger Zelazny)

1976  
**Star Stone (Speicus) - this is a recording** (from The Phantom of Kansas by John Varley)

1976  
**Rhenius Machine - reverse yourself** (from Doorways in the Sand by Roger Zelazny)

1976  
**Strakh - prestige in payment** (from The Moon Moth by Jack Vance)

1976  
**Dray-Fish - harness fish power** (from The Phantom of Kansas by John Varley)

1976  
**Environmental Happening** (from The Phantom of Kansas by John Varley)

1976  
**Stimic - instrument for cool disapproval** (from The Moon Moth by Jack Vance)

1976  
**Bussard Ramjet - hydrogen ramscope** (from A World Out of Time by Larry Niven)

1976  
**Zero-Time Jail - no time off for good behavior** (from A World Out of Time by Larry Niven)

1976  
**Poster TV - flattest of flat screen TVs** (from A World Out of Time by Larry Niven)

1976  
**Tagalong** (from In the Bowl by John Varley)

1976  
**Sonic Curtain (Sound Lock - undersea door** (from My Name is Legion by Roger Zelazny)

1976  
**Skyhook - unique lifter** (from West of Honor by Jerry Pournelle)

1976  
**Young-Forever** (from A World Out of Time by Larry Niven)

1976  
**Mind-up from Imperial Earth by Arthur C. Clarke)

1976  
**Moon Moth - a plain and timid mask** (from The Moon Moth by Jack Vance)

1976  
**Personality Simulator - game your office politics** (from The Dosadi Experiment by Frank Herbert)

1976  
**Briefcase Computer - early reference** (from Inherit the Stars by James P. Hogan)
1977 Trimagniscope - see inside any object (from Inherit the Stars by James P. Hogan)
1977 Armored Clothing - modern armor (from The Dosadi Experiment by Frank Herbert)
1977 Swimming Tubes - water-filled for frog people (from The Dosadi Experiment by Frank Herbert)
1977 SonobARRIER - keep the vultures out (from The Dosadi Experiment by Frank Herbert)
1977 Scramble Suit - instant anonymity (from A Scanner Darkly by Philip K. Dick)
1977 Cephalochromoscope (Cepshcope) (from A Scanner Darkly by Philip K. Dick)
1977 Grafuz - breeding pond for frog people (from The Dosadi Experiment by Frank Herbert)
1977 Taprisiot - galactic long distance calling (from The Dosadi Experiment by Frank Herbert)
1977 Liator Terminal - 70s workstation classic edition (from The Dosadi Experiment by Frank Herbert)
1979 High-Power Galaan Aircar - superbad SUV of the air (from Dying of the Light by George RR Martin)
1977 Glowstone - great at parties (from Dying of the Light by George RR Martin)
1977 Zoo Fences - made of acid (from The Dosadi Experiment by Frank Herbert)
1977 Uniflesh - skin for every occasion (from The Dosadi Experiment by Frank Herbert)
1979 Grapple Tracks - auto parking (from The Dosadi Experiment by Frank Herbert)
1977 Tracked Vehicle - better than Hummer (from The Dosadi Experiment by Frank Herbert)
1979 Odalarm - aromatherapy wake-up call (from The Dosadi Experiment by Frank Herbert)
1977 Bedoo - a comfy canine (from The Dosadi Experiment by Frank Herbert)
1977 Caleban Contact - listen to the stars (from The Dosadi Experiment by Frank Herbert)
1981 Daily Schedule (DS) - intelligent day planner (from The Dosadi Experiment by Frank Herbert)
1977 Taprisiot Monitor - last chance to surveil (from The Dosadi Experiment by Frank Herbert)
1979 Chameleon Cloth - great camouflage (from Dying of the Light by George RR Martin)
1977 Darkdawn City - the venue is musical (from Dying of the Light by George RR Martin)
1977 Skitter - electric carts on Dosadi (from The Dosadi Experiment by Frank Herbert)
1977 Sky-Scoot - flying foils (from Dying of the Light by George RR Martin)
1980 Spider Space Elevator Test Vehicle - test the cables (from The Fountains of Paradise by Arthur C. Clarke)
1981 Personal Interest Profile (PIP) - invention of Google Alerts (from The Fountains of Paradise by Arthur C. Clarke)
1978 Space Elevator (Orbital Tower) - best novel reference (from The Fountains of Paradise by Arthur C. Clarke)
1978 Spinnerettes - handling nanofibers (from The Fountains of Paradise by Arthur C. Clarke)
1978 1D Diamond Crystal - might be a carbon fullerene molecule (from The Fountains of Paradise by Arthur C. Clarke)
1978 Operation Cleanup - remove orbital debris the brute force way (from The Fountains of Paradise by Arthur C. Clarke)
1978 Whale Waldo (from Sundiver by David Brin)
1979 Spider (from The Web Between the Worlds by Charles Sheffield)
1978 Receptor Tape - very thin microphone (from The Face by Jack Vance)
1979 Conductive Film - spray on wire (from The Face by Jack Vance)
1979 Sub-Etha Sens-O-Matic - better range than your thumb (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Babel Fish - improbable translator (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Infinite Improbability Drive - what are the odds it exists? (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Self-Satisfied Door - aaaaah! (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1978 Electronic Book - more massively useful than a towel (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Marvin the Robot - brain the size of a planet (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Deep Thought - second largest computer (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Gesture-Controlled Device (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Nutri-Matic (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Trailer - massively useful (from The Hitchhiker's Guide to the Galaxy by Douglas Adams)
1979 Deep-Radar (from Ringworld Engineers by Larry Niven)
1979 Watercouch (from Beyond the Blue Event Horizon by Frederik Pohl)
1979 Food Factory - fast food from outer space (from Beyond the Blue Event Horizon by Frederik Pohl)
1979 Droid - wire your pleasure center (from Ringworld Engineers by Larry Niven)
1979 Wunderland Treatymaker - peace through power mining (from Ringworld Engineers by Larry Niven)
1978 Boosterspice - anti geriatric drug (from Ringworld Engineers by Larry Niven)
1978 Tracer-Bird - the birds watches you (from Changeling by Roger Zelazny)
1979 Dream Park - theme park ancestor (from Dream Park by Larry Niven (w/S. Barnes))
1979 Underground MagLev Train (from Dream Park by Larry Niven (w/S. Barnes))
1979 Mattress Sleep Sensor - foolproof anti-sleep (from Dream Park by Larry Niven (w/S. Barnes))
1979 Sleeve Watch - multipurpose clothing (from Dream Park by Larry Niven (w/S. Barnes))
1979 Robot Probes (Arr-twos) - remote-controlled eyes and ears (from Oath of Fealty by Larry Niven (w/J. Pournelle))
1979 Iceberg Water Tub - fresh water mountain (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
1979 Telepresence Bulldozer - robotics for remote operation (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
1979 Mechanical Mole - Underground vehicle (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
1979 Briefcase Console - the original notebook computer (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
1979 Communications Implant - I think therefore I network (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
1979 Arcology (Soleri) - maximize your green space (from Oath of Fealty by Jerry Pournelle (w/L. Niven))
No-Globe
(from Against Infinity by Gregory Benford)

Ghost Trap
(from Friday by Robert Heinlein)

Shipstone - lots of power
(from Friday by Robert Heinlein)

Scooter - zipping around the moon
(from Against Infinity by Gregory Benford)

Cerebral Microprocessors
(from Millenium by John Varley)

Gnome - built into life support
(from Millenium by John Varley)

Timepress - time in a bottle
(from Millenium by John Varley)

Twonky - trashes the time stream
(from Millenium by John Varley)

Tether Space Station
(from Tank Farm Dynamo by David Brin)

Wimp - body without a mind
(from Millenium by John Varley)

Biocomputer - wide-screen Jehovah
(from Millenium by John Varley)

Revitalizer Console - perk up your bloodstream
(from Millenium by John Varley)

Time Capsule - time traveler's use them
(from Millenium by John Varley)

Post Office - special package delivery
(from Millenium by John Varley)

Speedcap - late? Go ballistic!
(from Millenium by John Varley)

Planck Juice - pre-quark beverage
(from Master of Space and Time by Rudy Rucker)

Ixian Probe
(from Heretics of Dune by Frank Herbert)

Sparkers - tasty watts for aliens
(from Niven's Laws by Larry Niven)

Hoverlimo - hovercraft for hire
(from Steel Beach by John Varley)

Hardwriter - tattoo as output device
(from Steel Beach by John Varley)

Direct Interface - cut NaturallySpeaking out of the loop
(from Steel Beach by John Varley)

Padloid - National Enquirer on your tablet PC
(from Steel Beach by John Varley)

Contact Venom
(from Twenty Evocations by Bruce Sterling)

Flexitime - you've had enough, pal
(from Master of Space and Time by Rudy Rucker)

Coffin Rack - coffin hotel
(from The Science-Fiction Yearbook (ed. Jerry Pournelle) by William Gibson)

Litter Sling
(from Heretics of Dune by Frank Herbert)

Composite Expert System - interface with a heart
(from Twenty Evocations by Bruce Sterling)

Seren - beat the brain scan
(from Heretics of Dune by Frank Herbert)

Optic Television
(from Twenty Evocations by Bruce Sterling)

Readout Skin - Gutenberg gets tattoos
(from Steel Beach by John Varley)

Nikon Eyes - cultivated eyes
(from Neuromancer by William Gibson)

Vat Grown Meat
(from Neuromancer by William Gibson)

Agony Box - testing for humans
(from Heretics of Dune by Frank Herbert)

Tua Space-going version of the ocean vehicle
(from Neuromancer by William Gibson)

Toothbud Transplant - implanted teeth
(from Neuromancer by William Gibson)

Robot Crab - robot gardener
(from Neuromancer by William Gibson)

Temporary Quarters - interior tents
(from Neuromancer by William Gibson)

JAL Shuttle
(from Neuromancer by William Gibson)

No-Ship
(from Heretics of Dune by Frank Herbert)

Selected Melanin Boosting - designer tan
(from Neuromancer by William Gibson)

Freezer Orbital Resort
(from Neuromancer by William Gibson)

Muscle graft - get muscles?
(from Neuromancer by William Gibson)

SimStim - playback your internal experience
(from Neuromancer by William Gibson)

Microsoft - the cool kind
(from Neuromancer by William Gibson)

Talking Head - retro output device
(from Neuromancer by William Gibson)

Construct - persona in software
(from Neuromancer by William Gibson)

Surface set Glasses - why buy expensive frames?
(from Neuromancer by William Gibson)

Mimetic Polycarbon Suit - urban camouflage
(from Neuromancer by William Gibson)

Matrix - shared virtual reality
(from Neuromancer by William Gibson)

Medically Applicable Biochip - a microarray
(from Blood Music by Greg Bear)

Nulentropy Bin - world's best salad crispers
(from Heretics of Dune by Frank Herbert)

Cyberspace - the original consensual hallucination
(from Neuromancer by William Gibson)

House Records -10K years of information management
(from Heretics of Dune by Frank Herbert)

Life-shield Blanket - save from sensors
(from Heretics of Dune by Frank Herbert)

Database - a status-thin briefcase for electronics
(from Heretics of Dune by Frank Herbert)

ICE (Intrusion countermeasures electronics) - anti-hacker
(from Neuromancer by William Gibson)

Pulse-Timer
(from Heretics of Dune by Frank Herbert)

No-Globe
(from Heretics of Dune by Frank Herbert)

Biologics - organic computing
(from Blood Music by Greg Bear)

Comeye - portable video camera
(from Heretics of Dune by Frank Herbert)

Intelectual Cell - cellular computing
(from Blood Music by Greg Bear)

Chipsiptha Supercomputer - build your own
(from Niven's Laws by Larry Niven)

Ghost Trap
(from Ghostbusters by Harold Ramis)

Proton Pack - don't cross the streams
(from Ghostbusters by Harold Ramis)

Kuang Grade Mark Eleven Penetration Program
(from Neuromancer by William Gibson)

Computer-Created Dub
(from Neuromancer by William Gibson)

Implanted Microprocessor Monitor
(from Neuromancer by William Gibson)

Circumlunar - home with lunar views
(from Schismatrix by Bruce Sterling)

Sentient Room - not the Radisson
(from Schismatrix by Bruce Sterling)

Mechanist Drogue
(from Schismatrix by Bruce Sterling)

Millipede Train - lotsa little legs
(from Eon by Greg Bear)
1985 Deceleration Paste - antidote for deceleration trauma (from Schismatrix by Bruce Sterling)
1985 Agricultural Robot Pest Controller - picking off the pests (from Runaway by Michael Crichton)
1985 Digger Worm - mining robot (from With Friends Like These by Connie Willis)
1985 Bat Wings - enable personal flight (from Limits by Larry Niven)
1985 Big Push - miles long slingshot (from Limits by Larry Niven)
1985 Beta Beam Satellite (from Limits by Larry Niven)
1985 Sours (from Schismatrix by Bruce Sterling)
1985 Michael (Orion Ship) (from Footfall by Larry Niven (w/J. Pournelle))
1985 Flash Suit - laser game suit (from Ender's Game by Orson Scott Card)
1985 Bat-Tails - ultimate antigrav gaming (from Ender's Game by Orson Scott Card)
1985 Floater Camera - fly and spy (from Runaway by Michael Crichton)
1985 Survival Bubble (Beach Ball) - personal rescue enclosure (from Footfall by Larry Niven (w/J. Pournelle))
1985 Police Sketch Artist Software - pc-based police art (from Runaway by Michael Crichton)
1985 Earmile (from Freezone by John Shirley)
1985 Killer Insect Robot (from Runaway by Michael Crichton)
1985 Video-Manicuring Program (from Schismatrix by Bruce Sterling)
1985 Tube Rack (from Solstice by James Patrick Kelly)
1985 Orbital Retirement Hotel (from Contact by Carl Sagan)
1985 Freezone - artificial island community (from Freezone by John Shirley)
1985 Wire Act (from Freezone by John Shirley)
1985 Sniffer Robot (from Runaway by Michael Crichton)
1985 Smart Bullet - self-guided microshell (from Runaway by Michael Crichton)
1985 Sleep Tube (from Solstice by James Patrick Kelly)
1985 Resting Planet (from Limits by Larry Niven)
1985 Microwave Beamer (from Limits by Larry Niven)
1985 Biosoft (from Count Zero by William Gibson)
1985 Slamhound (from Count Zero by William Gibson)
1985 Polycarbon Phone Screen (from Count Zero by William Gibson)
1985 Dustplug - cover your Microsoft slot (from Count Zero by William Gibson)
1985 Orbital Terminus - airport in orbit (from Count Zero by William Gibson)
1985 Blaupunkt Holostage - a tabletop 3D projector (from Snake-Eyes by Tom Maddox)
1985 Effective Human Implant Technology (EHIT) (from Snake-Eyes by Tom Maddox)
1985 Robot Cells (Crystal-Shaped Modules) - robot building blocks (from Isaac Asimov's Odyssey : Robot City: Book1 by Michael P. Kube-McDowell)
1985 Raisin - intelligent hearing aid (from Nanotime by Bart Kosko)
1985 Moddy - no personality? No problem! (from When Gravity Fails by George Alec Effinger)
1985 Boomer Park - where we're going (from Nanotime by Bart Kosko)
1985 Birth egg - IVF without the bother (from Nanotime by Bart Kosko)
1985 Superacid - smart acid (from Nanotime by Bart Kosko)
1985 Ice Dart - shot with an icicle (from Nanotime by Bart Kosko)
1985 Chiphead - circuits rule, neurons drool (from Nanotime by Bart Kosko)
1985 Electronic Monk - belief on demand (from Dirk Gently's Holistic Detective Agency by Douglas Adams)
1985 Hostage Gas (from The Uplift War by David Brin)
1985 Smart Lanes - my way IS the highway (from Nanotime by Bart Kosko)
1985 Vizelpaper - phone printer (from Wetware by Rudy Rucker)
1985 Twentipapers - back your own reality (from Wetware by Rudy Rucker)
1985 Digital Running Shoes - just measure it (from Islands in the Net by Bruce Sterling)
1985 Watchphone (from Islands in the Net by Bruce Sterling)
1985 Videoshades - be sure to get wraparound style (from Islands in the Net by Bruce Sterling)
1985 Didge-Ital - in a tank (from Islands in the Net by Bruce Sterling)
1985 Steel Drugs - in a tank (from Islands in the Net by Bruce Sterling)
1985 Inert Resin - resinous coatings (from Islands in the Net by Bruce Sterling)
1985 House Voice - Thurber's nightmare (from Mona Lisa Overdrive by William Gibson)
1985 Video-Glasses - see in all directions at once (from Islands in the Net by Bruce Sterling)
1985 Trode-Net - electrode webbing (from Mona Lisa Overdrive by William Gibson)
1985 Maas-Neotek Biochip (from Mona Lisa Overdrive by William Gibson)
1985 Cleaning Machine Warren (from Mona Lisa Overdrive by William Gibson)
1985 High Tech Trash Can - every beach should have one (from Islands in the Net by Bruce Sterling)
1985 Scop - the future of food? (from Islands in the Net by Bruce Sterling)
1985 Data Haven - an alternative web host (from Islands in the Net by Bruce Sterling)
1985 Jackleg - dodge the data cops (from Islands in the Net by Bruce Sterling)
1985 Korsakov's - mind control (from Mona Lisa Overdrive by William Gibson)
1985 Flickercladding - light emission and absorption (from Wetware by Rudy Rucker)
1985 Boppers - robots do their own thing (from Wetware by Rudy Rucker)
1985 Brainlock - life in the now (from Mona Lisa Overdrive by William Gibson)
1985 Hovercraft - ride on a cushion of air (from Mona Lisa Overdrive by William Gibson)
1985 Week Trees - quick bonsai (from Wetware by Rudy Rucker)
1985 Heartshirt - wear your pulse on your sleeve (from Wetware by Rudy Rucker)
1985 People-Mover (from Wetware by Rudy Rucker)
1985 Bank Chip - a smart credit card (from Mona Lisa Overdrive by William Gibson)
1985 Suit Designer (from Mona Lisa Overdrive by William Gibson)
1985 Digger VTOL surveillance drone (from Mona Lisa Overdrive by William Gibson)
1985 Polycarbon Exo - a military exoskeleton (from Mona Lisa Overdrive by William Gibson)
1985 Sculpted Teeth (from Mona Lisa Overdrive by William Gibson)
1985 Lunar Concrete (from Mona Lisa Overdrive by William Gibson)
<table>
<thead>
<tr>
<th>Year</th>
<th>Technology/Device/Software</th>
<th>Author/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>Recorded Personalities (from Mona Lisa Overdrive by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>Projection Rig - envy of presenters (from Mona Lisa Overdrive by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>SIN (Single Identification Number) - national ID (from Mona Lisa Overdrive by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>High Orbit Archipelago (from Mona Lisa Overdrive by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>Schrön Loop - ultimate portable data storage (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Treeship (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Hawking Mat (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Cybrid - person as data terminal (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Micromind - just a little AI (from Tides of Light by Gregory Benford)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Free-a-Couch (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Universal Card - every planet you want to be (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Fatline - FTL communication (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Credit Wake - credit card transaction blog (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Can City - spinning space habitat (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Kamikaze Andy - not Threepio (from Tekwar by William Shatner)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Yoxbox - talking back (from Tekwar by William Shatner)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Orbiting Penal Colony - Alcatraz in orbit (from Tekwar by William Shatner)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Lifezone - biosphere (from Tides of Light by Gregory Benford)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Wrist Command - very trek (from Tides of Light by Gregory Benford)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Farrcaster - step through to another planet (from Hyperion by Dan Simmons)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Magnus-Effect Ambulance (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Fabricow (from Piecework by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Data-Retrieval Programs (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>EmilyPost (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>World Predictions Registry - if you're sure (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Subvocal Input Device (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Lawyer Program - AI goes to the dark side (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Reading Plaque (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Sonomagnetic Fabric (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Furza the Pukha (from The Rowan by Anne McCaffrey)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Dozer (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Deadman's Device (from Shadowspeer by Patricia Jo Clayton)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Anti-Onc Cream (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Tracking Bracelet - a high security device (from Shadowspeer by Patricia Jo Clayton)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Quantum Logic Thinker (QL) - fuzzy logic thinker (from Heads by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>HoverCar - full AI + Franklin Planner (from Queen of Angels by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Monomol Mesh Armor - chain (molecule) mail (from Queen of Angels by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Dustmice - tiny robot detectives (from Queen of Angels by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Eloi - long lifers (from Queen of Angels by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Live Carpet - sensor fibers are self-cleaning (from Queen of Angels by Greg Bear)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>True-Vu Lenses (Goggles) - sneak a peek (from Earth by David Brin)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Screening Software (from The Moat by Greg Egan)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Flatscreen Movie - old-fashioned 2D entertainment (from Orbital Resources by John Barnes)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Spotlight of Heat (Orbital Microwaves) - magical heat from above (from Fallen Angels by Larry Niven w/Pournelle, Flynn)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Law Expert System (LEX) - law software (from The Moat by Greg Egan)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Roujin Z-0001 - military bed robot (from Roujin 2 by Katsushi Otomo)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Seeder Ramship (from Rammer by Larry Niven)</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Teaching Chair (from Rammer by Larry Niven)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Metaversed - the whole virtual world (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Data Goggles - immerse yourself in the matrix (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Civilization Earth - google earth (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Burbclave - autonomous suburban enclave (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Avatar - godlike poseurs (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>EverRest Cryotorium - cryonic in orbit (from Flare by Roger Zelazny)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Sven - AI investigator (from The Turing Option by Harry Harrison)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>U-Stor-It - go store yourself (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Loogie Gun - can't we have nonviolent AND sanitary? (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Dentata - anti-rape device worn internally (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Smartwheels - variable length spokes (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Hypercard - it sure carries a lot of weight (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Log'o - highway light signature (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Sintered Armorgel (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Smart Box - your pizza knows if its late (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Arachnofiber Uniforms - Spidey delivers pizza (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Deliverator Car - pizza on the edge (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>High-Voltage Cuffs - Captain Nemo likes (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Avatar Construction Set - build your virtual self (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Magnapoon - as in harpoon (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Chunker - non-violent weapon (from Virtual Light by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Stealth House - toxic dwellings (from Virtual Light by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Fractal Knife - more cutting surface (from Virtual Light by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Cargo Cell - a cell in your tank (from Virtual Light by William Gibson)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Diagnostic Sleeve - smarter than a BP cuff (from Gripping Hand by Larry Niven w/J. Pournelle)</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Crash Web (from Crashlander by Larry Niven)</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>XV Wedge - let me entertain you (from Mother of Storms by John Barnes)</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Avatar - godlike poseurs (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Dentata - anti-rape device worn internally (from Snow Crash by Neal Stephenson)</td>
<td></td>
</tr>
</tbody>
</table>
1994
AlRE - reverse engineering software (from Mother of Storms by John Barnes)
1994
XV - share your thoughts (from Mother of Storms by John Barnes)
1994
Auto-Treadmills (Needle-Gym) (from Natulife by David Brin)
1994
Slim-Grib (from Natulife by David Brin)
1994
Accu-Terrain Floor (from Natulife by David Brin)
1994
Yeast-Beast Machine (from Natulife by David Brin)
1994
Tracing Glasses - find criminals now (from Case Closed (Detective Conan) by Gosho Aoyama)
1994
Inflatable Expansion Bubble - temporary room for space craft (from Crashlander by Larry Niven)
1994
Escaladder - a ladder you can ride (from Crashlander by Larry Niven)
1994
Voken - flying to the moon - hey, its me (from Case Closed (Detective Conan) by Gosho Aoyama)
1994
VR Dyslexia - take those glasses off (from Rim by Alexander Besher)
1994
Vai-Chi - virtual tai chi (from Rim by Alexander Besher)
1994
Holos - 3D driver’s license (from Rim by Alexander Besher)
1994
Virtual Reality Ceremony - serving up VR (from Rim by Alexander Besher)
1994
Neuro-netsukes - tiny personality construct (from Rim by Alexander Besher)
1994
Virtual Childrearing - long distance childcare (from Natulife by David Brin)
1994
Chemotactic Artificial Jellyfish - big jellies (from Big Jelly by Rudy Rucker (w/B. Sterling))
1994
Mass Pointer (from Crashlander by Larry Niven)
1994
Sensient Plastic (from Ring by Stephen Baxter)
1994
Wandering Mine (from Half the Day is Night by Maureen F. McHugh)
1994
Neotopological Metapixel Adjacency - just around the corner (from The Hole in the Hole by Terry Bisson)
1994
Av fairly wants to be taught (from The Calcula Chromosome by Amlal Ghosh)
1994
Implanted Credit Card - wherever you want it to be (from The Diamond Age by Neal Stephenson)
1994
Fabricules - squeaky clean nanomachine (from The Diamond Age by Neal Stephenson)
1994
Lithospaces - building block (from The Diamond Age by Neal Stephenson)
1994
Aerostat Monitor - a small flying platform (from The Diamond Age by Neal Stephenson)
1994
Chevaline - robotic horse (from The Diamond Age by Neal Stephenson)
1994
Pedomotive - power stilts (from The Diamond Age by Neal Stephenson)
1994
Phantoscope (phenomenoscope) - see it all (from The Diamond Age by Neal Stephenson)
1994
Smartoral Reef - water purifying reef (from The Diamond Age by Neal Stephenson)
1994
Microde - get a new look like you get the flu (from Armed Memory by Jim Smith)
1994
Filter Wheel - stepwise refinement (from The Diamond Age by Neal Stephenson)
1994
Freedom Machine - nanotech birth control (from The Diamond Age by Neal Stephenson)
1994
Immunocules - nanotechnology imitates life (from The Diamond Age by Neal Stephenson)
1994
Lidar - see through with visible light (from The Diamond Age by Neal Stephenson)
1994
Smart Paper - thin-film transistor display (from The Diamond Age by Neal Stephenson)
1994
Ballisticules - nanomachines throw their weight around (from The Diamond Age by Neal Stephenson)
1994
Mite - very small machine helpers (from The Diamond Age by Neal Stephenson)
1994
Toner - dead nanobot bits (from The Diamond Age by Neal Stephenson)
1994
Runcible - every page an LCD screen (from The Diamond Age by Neal Stephenson)
1994
Dog Pod Grid - aerostat defensive maneuver (from The Diamond Age by Neal Stephenson)
1994
Matter Compiler - stereolithography on steroids (from The Diamond Age by Neal Stephenson)
1994
Clave - a suburban enclave (from The Diamond Age by Neal Stephenson)
1994
Cookie-Cutters - bomblets in your bloodstream (from The Diamond Age by Neal Stephenson)
1994
 sitio - friends are your friends (from The Diamond Age by Neal Stephenson)
1994
Skullgoun - cock cranium and fire (from The Diamond Age by Neal Stephenson)
1994
Sights - skull gun crosshairs (from The Diamond Age by Neal Stephenson)
1994
Mediatron - paper-thin LCD display (from The Diamond Age by Neal Stephenson)
1994
Black Power - solar power in a spray can (from The Woman in Del Rey Crater by Larry Niven)
1994
Mediaglyphic - animated symbols (from The Diamond Age by Neal Stephenson)
1994
Phase Array with visible light (from The Diamond Age by Neal Stephenson)
1994
Eyesphere(s) - big screen in a small package (from Idroru by William Gibson)
1994
Control-Face - an LCD remote control (from Idroru by William Gibson)
1994
Video Unit - big bro (from Idroru by William Gibson)
1994
Computer Translator - computer translator and GPS (from Idroru by William Gibson)
1994
Sandbenders - a gem of a computer (from Idroru by William Gibson)
1994
Headset - wireless ear-clips (from Idroru by William Gibson)
1994
Idoru - a software-generated personality (from Idroru by William Gibson)
1994
Synthesplan - a computer-generated actor (from Idroru by William Gibson)
1994
Nanotech Buildings - built with fibers (from Idroru by William Gibson)
1994
Kitchen robotics - smART fridge (from Idroru by William Gibson)
1994
Webeye - Logitech endpoint (from The Rintworld Throne by Larry Niven)
1994
Micro-Bachelor - downsacle apartment (from Idroru by William Gibson)
1994
Cybernetic Water Witch - (from Idroru by William Gibson)
1994
Virtual Meeting - grandson of the web conference (from Idroru by William Gibson)
1994
Wearable White-Noise Generator - urban isolation gear (from Idroru by William Gibson)
1994
Hydropathic bed - better than a waterbed (from The Demolished Man by Alfred Bester)
1994
Hotdesk - the cubicle is the computer (from Idroru by William Gibson)
1994
Automated DNA Typing - from one drop (from Gattaca by Andrew Niccol)
1994
Softlight (from Softlight Sins by Peter F. Hamilton)
1994
Boink Biosensor - handheld (from The Cobra Event by Richard Preston)
1994
Headset Display - heads-up (from The Tank Lords by David Drake)
1994
Concrete Boxes - U-Stor-U (from Earth Made of Glass by John Barnes)
1994
Emblock - MP3 player for memories (from Earth Made of Glass by John Barnes)
1994
Springer - teleport yourself (from Earth Made of Glass by John Barnes)
Infowar Operation (from Distraction by Bruce Sterling)
Psyyx - will your memories wind up on Kazaa? (from Earth Made of Glass by John Barnes)
Netwar - communications warfare (from Distraction by Bruce Sterling)
Boob Cube - 3D TV is no better (from The Best of all Possible Wars by Larry Niven)
Spect - programmable soda (from SOLACE by Jeff Noon)
Bugged Money - money rigged for surveillance (from Distraction by Bruce Sterling)
Junkbot - spamachine (from Distraction by Bruce Sterling)
Profile Sniffers - sifting the web (from Distraction by Bruce Sterling)
Bambakias Hotel - help it come into being (from Distraction by Bruce Sterling)
Talking Tape - smart as a brick (from Distraction by Bruce Sterling)
Smart Bike (from Distraction by Bruce Sterling)
Dime Disk - data storage (from The Best of all Possible Wars by Larry Niven)
Monobloc Dating System - advanced dating software (from The Best of all Possible Wars by Larry Niven)
Motion Capture Suit - lifetime motion capture (from All Tomorrow's Parties by William Gibson)
Head Cheese - cultured neurons in a dish (from Starfish by Peter Watts)
Sonar Pistol (from Starfish by Peter Watts)
Neuroinduction Field (from Starfish by Peter Watts)
Smart Material - never wash those walls again (from All Tomorrow's Parties by William Gibson)
Smart Tag - sneaky graffiti (from All Tomorrow's Parties by William Gibson)
Snake Contact Lens - get that reptilian look (from All Tomorrow's Parties by William Gibson)
Lucky Dragon ATM - an ATM with an attitude (from All Tomorrow's Parties by William Gibson)
Medical Mantis - telefactoring device for physicians (from Starfish by Peter Watts)
Palm Scan - the big print (from All Tomorrow's Parties by William Gibson)
Exoskeleton - a military exoskeleton (from A Good Old-Fashioned Future by Bruce Sterling)
Beelzebog - bendable weapon (from All Tomorrow's Parties by William Gibson)
Lucid Dreamer - its a dream machine (from Starfish by Peter Watts)
Interactive Video Column - see the world -- from convenience stores? (from All Tomorrow's Parties by William Gibson)
Recycler (from Starfish by Peter Watts)
GPS Sunglasses - you are here (from All Tomorrow's Parties by William Gibson)
Nanofax - fax 3D objects, not flat ones (from All Tomorrow's Parties by William Gibson)
Bohemias - a cultural incubator (from All Tomorrow's Parties by William Gibson)
EyeCaps (from Starfish by Peter Watts)
Face Seal (from Starfish by Peter Watts)
Dustmite (from A Deepness in the Sky by Vernor Vinge)
Localizer - tiny network mote (from A Deepness in the Sky by Vernor Vinge)
Video Wallpaper (from A Deepness in the Sky by Vernor Vinge)
Diveskin - wetsuit for the deep rift (from Starfish by Peter Watts)
Smart Gel - brain in a dish (from Starfish by Peter Watts)
Motion Capture Suit - lifetime motion capture (from All Tomorrow's Parties by William Gibson)
Blurbflies (Sing. Blurbfly) - corporate gadflies create a buzz (from Nymphomation by Jeff Noon)
Bubble - undersea elevator (from Saturn's Race by Larry Niven)
Napcap - get a good night's sleep (from Saturn's Race by Larry Niven)
Napcap Rental Facility - snooze at will (from Saturn's Race by Larry Niven)
Beetle - a balloon with a shell (from Saturn's Race by Larry Niven)
Floating Island - living space (from Saturn's Race by Larry Niven)
Randominoes (from Nymphomation by Jeff Noon)
Oceanic Thermal Energy Converter - energy from the sea (from Saturn's Race by Larry Niven)
Datapack - portable DRAM (from Dune: House Harkonnen by Brian Herbert)
Weather Pod - self-contained meteorology lab (from Dune: House Harkonnen by Brian Herbert)
Vagus Nerve Bio-Chip (from Diplomatic Immunity by Lois McMaster Bujold)
E-Suit (Environmental Suit) (from Chindi by Jack McDevitt)
Personalized Graphic Advertisements (from Minority Report (Movie) by Stephen Spielberg)
Provigil - sleep surrogate (from When the Devil Dances by John Ringo)
Manna (from Manna by Marshall Brain)
E-paper Newspaper (from Minority Report (Movie) by Stephen Spielberg)
Data Tiles - panes of data (from Minority Report (Movie) by Stephen Spielberg)
Public Iris Scanner - Mr. Anderton (from Minority Report (Movie) by Stephen Spielberg)
Photo-Voltaic Robes (from Snow in the Desert by Neal Asher)
Wired Glove Interface Display (from Minority Report (Movie) by Stephen Spielberg)
Maelstrom (from Maelstrom by Peter Watts)
Poppins - Julie Andrews android (from Klín People by David Brin)
Ditto Blank - mindless android (from Klín People by David Brin)
Imprint (A Ditto Blank) - pseudo-you (from Klín People by David Brin)
Bullet-guard Overalls (from Klín People by David Brin)
Robofish (Mitsubishi Robot Turbot) - robot fish (from Slow Life by Michael Swanwick)
Pocket Dome - handy space tent (from Chindi by Jack McDevitt)
Gravity Tube - e-z store (from Chindi by Jack McDevitt)
E-Paper - disposable LCD displays (from Darwin's Children by Greg Bear)
Needlecant - tightbeam transmission of being (from Altered Carbon by Richard Morgan)
Touch Tablet (from Darwin's Children by Greg Bear)
Automated Sentry - automatic face recognition (from Darwin's Children by Greg Bear)
Speaker Chips - talking books (from Darwin's Children by Greg Bear)
Idector - gene identification (from Darwin's Children by Greg Bear)
Synthetic Sleeve - artificial body (from Altered Carbon by Richard Morgan)
Little Bird - surveillance drone (UAV) (from Darwin's Children by Greg Bear)
Mandroid - a mechanical human (from Altered Carbon by Richard Morgan)
Pigoon - transgenic pig (from Oryx and Crake by Margaret Atwood)
Tuned-Laser Decontamination - zap just the bad (from Hybrids (Neanderthal Parallax) by Robert J. Sawyer)
Whuffie (from Down and Out in the Magic Kingdom by Cory Doctorow)
Specimen Track (from Darwin's Children by Greg Bear)
Cortical Stack - USB/WiFi flashdrive for your brain (from Altered Carbon by Richard Morgan)
Illuminium - glows with its own light (from Altered Carbon by Richard Morgan)
Autosurgeon - doctor's robot helper (from Altered Carbon by Richard Morgan)
External Eyelenses - make a spectacle of yourself (from Altered Carbon by Richard Morgan)
Traction City Gut (from Mortal Engines by Philip Reeve)
Automatic Hotel (Hotel Hendrix) - the hotel is your host (from Altered Carbon by Richard Morgan)
Spray-on Surgical Gloves (from Altered Carbon by Richard Morgan)
Causality-violation Device (or Weapon) (from Singularity Sky by Charles Stross)
Biolution - biological manufacturing (from The Tels by Paul Black)
Interway - computer-controlled highway (from The Tels by Paul Black)
Alien Tarantula (from Engine City by Ken MacLeod)
Traction City - not cities in flight (from Mortal Engines by Philip Reeve)
Municipal Darwinism (from Mortal Engines by Philip Reeve)
Olfactory Wakeup Call - waky waky eggs and baky (from Altered Carbon by Richard Morgan)
Oceanic Thermal Energy Converter - energy from the sea (from Saturn's Race by Larry Niven)
Beetle - a balloon with a shell (from Saturn's Race by Larry Niven)
Napcap Rental Facility - snooze at will (from Saturn's Race by Larry Niven)
Napcap - get a good night's sleep (from Saturn's Race by Larry Niven)
Bubble - undersea elevator (from Saturn's Race by Larry Niven)
Blurrflies (Sing, Blurrfly) - corporate gadflies create a buzz (from Nymphomation by Jeff Noon)
Randominones (from Nymphomation by Jeff Noon)
Floating Island - living space (from Saturn's Race by Larry Niven)
Weather Pod - self-contained meteorology lab (from Dune: House Harkonnen by Brian Herbert)
Datapack - portable DRAM (from Dune: House Harkonnen by Brian Herbert)
Poppins - Julie Andrews android (from Klín People by David Brin)
Gravity Tube - e-z store (from Chindi by Jack McDevitt)
Pocket Dome - handy space tent (from Chindi by Jack McDevitt)
Robofish (Mitsubishi Robot Turbot) - robot fish (from Slow Life by Michael Swanwick)
Bullet-guard Overalls (from Klín People by David Brin)
Imprint (A Ditto Blank) - pseudo-you (from Klín People by David Brin)
Ditto Blank - mindless android (from Klín People by David Brin)
E-Suit (Environmental Suit) (from Chindi by Jack McDevitt)
Personalized Graphic Advertisements (from Minority Report (Movie) by Stephen Spielberg)
Public Iris Scanner - Mr. Anderton (from Minority Report (Movie) by Stephen Spielberg)
E-paper Newspaper (from Minority Report (Movie) by Stephen Spielberg)
Data Tiles - panes of data (from Minority Report (Movie) by Stephen Spielberg)
Manna (from Manna by Marshall Brain)
Maelstrom (from Maelstrom by Peter Watts)
Vagus Nerve Bio-Chip (from Diplomatic Immunity by Lois McMaster Bujold)
Provigil - sleep surrogate (from When the Devil Dances by John Ringo)
Photo-Voltaic Robes (from Snow in the Desert by Neal Asher)
Wired Glove Interface Display (from Minority Report (Movie) by Stephen Spielberg)
Olfactory Wakeup Call - waky waky eggs and baky (from Altered Carbon by Richard Morgan)
Pigoon - transgenic pig (from Oryx and Crake by Margaret Atwood)
Needlecast - lightbeam transmission of being (from Altered Carbon by Richard Morgan)
Tuned-Laser Decontamination - zap just the bad (from Hybrids (Neanderthal Parallax) by Robert J. Sawyer)
E-Paper - disposable LCD displays (from Darwin's Children by Greg Bear)
Little Bird - surveillance drone (UAV) (from Darwin's Children by Greg Bear)
Specimen Track (from Darwin's Children by Greg Bear)
Ideator - gene identification (from Darwin's Children by Greg Bear)
Speaker Chips - talking books (from Darwin's Children by Greg Bear)
Automated Sentry - automatic face recognition (from Darwin's Children by Greg Bear)
Touch Tablet (from Darwin's Children by Greg Bear)
Spray-on Surgical Gloves (from Altered Carbon by Richard Morgan)
Traction City Gut (from Mortal Engines by Philip Reeve)
Municipal Darwinism (from Mortal Engines by Philip Reeve)
Alien Tarantula (from Engine City by Ken MacLeod)
Interway - computer-controlled highway (from The Tels by Paul Black)
Biolution - biological manufacturing (from The Tels by Paul Black)
Cortical Stack - USB/WiFi flashdrive for your brain (from Altered Carbon by Richard Morgan)
Autosurgeon - doctor's robot helper (from Altered Carbon by Richard Morgan)
Synthetic Sleeves - artificial body (from Altered Carbon by Richard Morgan)
Automatic Hotel (Hotel Hendrix) - the hotel is your host (from Altered Carbon by Richard Morgan)
Mandroid - a mechanical human (from Altered Carbon by Richard Morgan)
External Eyelenses - make a spectacle of yourself (from Altered Carbon by Richard Morgan)
Traction City - not cities in flight (from Mortal Engines by Philip Reeve)
Illuminium - glows with its own light (from Altered Carbon by Richard Morgan)
Causality-violation Device (or Weapon) (from Singularity Sky by Charles Stross)
Whuffie (from Down and Out in the Magic Kingdom by Cory Doctorow)
Appendix 2: Supplementary Novel to the Thesis: “Amber Reins Fall”

Contents

Chapter One: Dawn on a Summer Holiday ............................................. 118
Chapter Two: A Mother’s Search for Myths .............................................. 157
Chapter Three: Lunar Landing ................................................................. 179
Chapter Four: Suicide and Self Help ......................................................... 196
Chapter Five: War ..................................................................................... 236
Chapter Six: First Great Adventure .......................................................... 269
Chapter Seven: Nuclear Surprise .............................................................. 311
Peter gazed with warm delight at the crimson dawn that was splashing colour over the grey of a new decade. He stood with his son, watching with fascination as the January sun hurried over the ancient, moulded Adelaide hills and daubed rusty corrugated iron fences with a lambent gold. He had invested a life's savings in the tin monolith that too was beginning to glisten with the Midas morn. He could see a beauty that few could see in the row of sheds that ran the length of the short street. In this select grove, where once the thick sticky black soil was ponderously tilled by generations of Italian migrants, now arose fragile castles of industry. The backyard entrepreneurs who were the new masters of this kingdom pounded the black earth, sprayed it, dried it, and rolled it into humble submission. No more did these acres burst with rich life of succulent fruit and vegetables. Now the machinery of the suburban capitalists pumped out raw products of myriad designs. Piles of lifeless goods, stacked on the cracked, paint-spattered dirt, begged for consumption. Children's half made corroded toys littered the front of his main shed. Yellow paint peeled off in large flakes from one side of a tin duck. The other side was hidden in the few tangled weeds that sprouted
through cracked concrete slabs. The entrails of the duck, where a child would crouch rocking, were bent pieces of steel and deformed plastic. A pogo stick, from a craze come and gone, lay on the ground with a broken spring at one end curving into the dust and gravel that trickled between the concrete slabs. An old locomotive, big enough for a child to sit in, once imposing and majestic, had decayed into layers of rusting hulk. The bright happy colours of the past which had promised so much fun were now faded and miserable. But Peter could see how the sixties would bring a cornucopia of wealth. By the mere act of rezoning, land that had once been no more than a quagmire would make him a millionaire. Some, in fact many of his ventures had failed. Yet, he knew success would be his.

He looked again at the golden orb that rushed up from the east with the optimism of one who had passed the end of his thirties without succumbing to cynicism and disillusionment. Surely, he mused in his agnostic way, the rusty shafts of heat that were now stirring the world, that awoke the flies so they buzzed musically, that were cracking the red, raw sand of the factory's carpet, that made the golden stalks of the high dry grass sway and rustle, that excited the bull ants into a frenzy of running activity; surely this was all a sign, a sign of imminent wealth.

Adam considered it somewhat perverse when his father, in one of his bouts of reckless enthusiasm would wake him before the sun did. It was positively uncivilised when he was coerced into sharing these eerie, nearly nocturnal habits. His own life was crammed full of the obligations of new found adolescence. Energy expended this way needed palliative sleep. And lots of it.

Masturbation had become an area of primary importance, even though everybody at school had been telling him of its dangers. But the fascination of observing with what power the sticky stuff unleashed itself was more than he could resist. There were stories going around about his friends gluing flies to the ceiling while lying in bed. Anyway, if it was as bad as everyone said, sending you blind, how come, he thought to himself, more kids at school weren't wearing glasses? Chimp Smithfield his teacher in Religious Instruction had pretty well convinced him that God didn't mind because if it felt good, it probably was. The trouble was, at the very end of it, he always had that "guilty" feeling.
Some of the guys had been building fallout shelters. The teachers had said the big black cloud of radiation that had been shown in the newspapers was eventually going to reach Australia. It was obvious something catastrophic was going to happen soon, and Adam pondered the unfairness of dying before he was twenty, and certainly before he completed a degree at uni and even worse, before he lost his virginity. His own shelter had been a disastrous failure because digging any further down than two feet was beyond his energy and devotion. Also cats were prone to use his scrapings as field latrines, and an inordinate number of assorted bugs seemed to be attracted to these shallow graves. When he looked around at his and the neighbours houses he wasn’t sure it wasn’t a good thing they might be obliterated in one final, catastrophic fireball. These were ugly houses. Grey, solitary, fibro houses that split in the summer heat and all the noise inside them leaked out. They stood on stilts with wooden grates to hide the bile things that lurked below. Spiders, lizards and probably snakes. You couldn’t hear yourself think when a summer rain shower fell. And these houses were so hot that in the summer you had to sleep outside with the mosquitoes and flies. He hadn’t had a lot of experience with houses in his relatively short life but he knew that this was a slum waiting to happen. A time of purification is what is needed, he thought. Out with the old.

‘Popular Mechanics’ had been advertising an incredible array of paraphernalia to fill up nuclear bunkers with. There were portable toilets, little showers, air filters, periscopes and an array of other things. Adam had been particularly impressed by the plastic sleeping bag that doubled as a body-bag. For the unwanted corpses it was simply a matter of zipping them up to hold their stink in. He wasn’t sure what you did after. Did you bury the body and the bag when all the radiation had gone? Or did you tip out the stinking remains. Probably all gooey and liquid like the dead cat he had put in the plastic bag, buried it for a few weeks and then had to dig it up again. His father had wanted to start a vegetable garden. And he had not dug down very deep with the dead cat. Mind you he knew the vegetable garden would not last long. There were snails. There were bugs. There were hundreds of things that would devour the vegetables as soon as they started growing. He knew that and he couldn’t understand why his father didn’t. Everybody around here had tried to
grow vegetables and failed. And everybody buried their rubbish. There was nowhere else to put it.

His father had become quite obsessed with making money and even though Adam had professed an aversion to such crass behaviour, especially when it involved work, the don of the family had been press-ganging him into service at ‘the factory’. The factory was a new and diabolical toy as far as Adam could see. Everything that had been piled into it smelt of rust and oil, was dirty and noisy, and in no way related to the world he was building for himself in his mind. His grammar school education was clean and gentle. There were poems and plays, classical music and rowing. There was chapel and tuck-shop, sports day and the Ladies College down the road. But his father kept teasing and taunting him with his favourite ‘poofteroo’ label. Adam was told incessantly his salvation lay in all this factory grime. Sexual superiority would be assured if he could callous a hand on a hammer or better still lose a quarter of an inch or more of a finger on a chisel in a bloody tribute to manliness.

So, here drooped Adam on a summer’s day at its moment of birth, lamenting the loss of his bed and silently cursing his father who looked like he was praying to the sun. He wished him a most bloody and fiery death, immersion in molten steel, the stuff of this factory. He looked wearily at the ragged sky, through eyes shrouded in early morning fatigue that only adolescence can ever feel. He shaded his eyes as he looked to the sky. The glowing megatons of flaming fury tormented Adam with a warning of a time when a thousand such suns might rain on him. He shivered with the thought of a world melting in a flash around him with his consciousness lasting for the eternity of a second. Just long enough he thought to contemplate armageddon and wished he had not sinned so frequently the last few months. An eternity of damnation was on hand.

As day finally exploded the dreary ghetto of iron oxide and paint stains seemed to erupt at once with evil banshee machine noises and cries. Hell was painted on this suburban palette.

“This is what life is all about, wanker,” Peter called out cheerfully, full of life, energised by the South Australian summer and still English-articulate although he had been in Australia more than a decade. “Here is art and

121
culture. That dago Michelangelo would have learned a lot from the great American artists of Detroit. You wait and see my boy. This temple in front of you might look a little rough around the edges at present, but when the contracts come pouring in from General Motors, then we'll see who is the talented one. You academics are all the fucking' same.” He made the point of putting the ‘g’ at the end of ‘fuckin’, an attempt to accentuate the word. Adam read a lot. Miller, Kerouac, and even the classics. He was forming his own philosophies and attitudes. He was invincible now. His father's verbal strafings, disguised as light hearted banter, bounced off him. Poetry had been welling up inside of him for a year or so and that gave him his invulnerability. Whatever Dad could dish out in his make-out-working class volleys of disdain for private school boys, he could counter with acid words, secretly scrawled, to be promulgated some time in the future. All his father's moronic talk of ‘Dodge Phoenixes’ on the production line having more inherent beauty than David's statue had started to pale. The edge of intimidation had become blunt through over-use. Adam's sensibilities could not be callfused any more, he thought.

“Soon the sparks of my welders will paint my canvas here.” He pointed to the dark chasm at the back of his tin shrine. “Many a new symphony will be composed by that guillotine, and the bender. And what about the grinder and router? Oh ho, they'll add some pretty notes to my great composition. Have you ever heard the sweet music of my lathe or the planer? No, you have heard nothing when you listen to that poofter Mozart.

“And you think I don't know about poetry? Wait until I fill this place with my glorious workers. Ah ha many a creative oath will flow when hammer meets flesh, or blade touches bone.

“And you,” he flung his arms into the air with dictatorial relish, aiming his venom in the general direction of heaven and the bastion of all things ethereal and academic, “what dances more graciously than this.....”

He dragged Adam over to a long narrow bath. At each end was an upright column with a large wheel attached to the top. With a flick of a switch he started an invisible motor that rattled into life. The wheels turned and groaned. A new episode in production-line painting had begun. Looking like a miniature cable car, a wire belt moved with the slowly rotating wheels at the ends squeaking and squawking. Frail, tatty looking hooks made of rusty wire
hung down. Attached to them were metallic devices which looked as uninteresting as anything possibly could that consists of two flat pieces of steel separated by a four inch welded hollow cylinder.

Slowly these boring little baubles, already freckled with rust even though seemingly new-born, bounced along the tightrope swinging precariously. By means of an ingenious pulley located near each slowly rotating wheel, the pristine loads would dip down and down, still moving laterally, until they plunged into a thick black porridge of paint. Tenaciously the wheels kept pulling the loads along their way until another pulley whisked them up into the air again. The black gleaming masterpieces now began their final journey. Like some weird ritual of a lazy nation that likes basting itself in the sun, the little metallic lumps were exposed, first to blasts of warm air and then to a volley of artificial sunlight, burning out from fierce lamps. After running this bizarre gauntlet the whole process would be re-started.

With incredible agility for a portly, greying homunculus, Peter skipped through buckets of rusting pieces of iron, pirouetted around lakes of sump oil and ducked the many struts that filled the place with an element of danger that stirred his adrenalin. He quickly plucked his glistening plums as they slowly waltzed around, up and down, painting themselves.

"Every one of these cherries that comes up black continues the slow trickle of gold to my pocket," Peter said proudly.

"This whole hall of art," he looked at the expanse of corrugated iron twenty-five feet above and around him, "is a symbol of a new age; an age in which I will become the eternal artist who produces artistic components of social worth. There won't ever need to be subsidies or government grants here."

He held up a black mass. "This object d'art is a spring holder for a Holden. General Motors needs them, and I need their money. I will be doing the welding too, as soon as I can lease the equipment and finish off the factory. There needs to be a few refinements; an office, a dunny and a few other niceties, especially a concrete floor. And that's where you come in my boy!" Peter kicked at a bloody coloured pile of damp sand, the top few inches of which had started to coagulate and crack in the heat of Adelaide's annual inferno.
Adam gazed dejectedly at the vast factory floor, a sea of soil that still remained unclad. Only a few square yards of concrete had been laid to support the weight of the painting machine. With increasing fatigue he knew his summer slumber would soon be lost to slave labour. Oh Jesus, he thought, my soft hands and sensitive spirit of artistic youth will be traded for the callused maulers and vacuous mind of a navvy.

As the great morning fire rose in the east, so did the intensity of the wail of industry in these few parched acres, stolen from the quiet fruit growers of only a year past. The cement mixer spluttered into life and jingled to the sound of the gravel Adam poured into its mouth that was pouted in a horrified gasp.

He felt sorry for the magpies who were almost mute now, unable to complete with this cauldron of sound.

1961

Summer holidays were supposed to be times of luxuriating, thought Adam, as he bulldozed the nose of his battered and aging Volkswagen into a pile of sand. His father had dumped truckload after truckload of this stuff, all over another parcel of land he had just bought. The empire was expanding molecule by molecule, grain by grain, year by year. Adam knew that in a few weeks the grey hulk next door, by a weird act of symbiosis would be a larger hulk of factory straddling two properties. One half of this temple would gleam with the exuberance of newness and anticipation; the other would skulk in its tarnished greyness, its lustre lost after a year of satanic work defiling soil and air.

He looked at the mounds of sand half flattened by the flapping trapdoor of the lorry that had delivered the loads. He contemplated his days work to come. Those little hills all had to be smashed, flattened, pummelled, crushed, and levelled to make way for an icing of concrete that would seal out forever the rest of the universe from the black clay below. No life would sprout out from the moist sticky morass that used to offer crisp harvests and colour, harmony and gentle silence.

He backed up his Volkswagen again and following the furrows made by the trucks dumping the sand, built up speed. His car slammed into yet another
wall. Rusty coloured particles spattered everywhere as the engine screamed. His continual attacks very slowly reduced the undulations to a smooth red carpet, ready for its final crusting. Better this way, he thought, than using the spade and rake his father had supplied.

Pouring with perspiration, Adam lowered his gangly frame into the sand and prostrated himself, grasping a bottle of chilled Coke in one hand and a steaming, salty Chiko-roll in the other.

“Ah,” he said to himself, “Even a prince has to toil sometimes. And when the body stops what’s more enjoyable than the quenching of thirst, the filling of the stomach, and the sun warmly massaging the muscles.” He pulled a tattered notebook from his back pocket and made a note of his musing.

“Sweet salty pizza, ruby-blood revenge in a nasty wine.”

Adam preferred to sunbathe at lunch time than sit with the workers in the factory. School holidays, especially the summer ones, always meant a stint at ‘the factory’. This year he managed to put everything off until well after New Year’s Day, but eventually his father made life sufficiently unbearable at home to consider the glories of labouring. His father also cut off the financial means to his happiness. This was the act that ultimately inspired him. And his school friends were no doubt revelling in the surf on the south coast, playing with the sun-tanned tits of the girls of his school’s sister college.

His mind wandered to the sweet scented flesh he had felt and tried to kiss at Chris’s party only nights before. Tracey’s bra cup had been tight, but he had been able to drag her T-shirt down and pull the nipple out from its fortress, almost close enough to lick. But there had been a movement; a door slammed. Macka had cried out, “Where’s Adam,” and the whole thing was over. Tracey wasn’t ‘hot’ any more. Adam's pulse quickened and he felt the familiar pressure pushing at the crotch of his taut jeans.

Suddenly with excruciating pain his stomach muscles contracted violently and twitched as something heavy and cold crashed onto his lax stomach.

“There y’are wanka, grab a beer and ‘ave a man’s drink. Don't drink that emu's piss!” Joe, his father’s resident gorilla had emerged from the darkness of the factory, like some troglodyte from a dank cave. “Why don't ya come an' eat with us? Ya’ not a poofta are ya?” Joe stopped and looked
cunningly through thick knotted brows which hung from a prematurely crevassed forehead. “Yu'v got a fuckin' stiff, haven't ya. Yu little bastard.” He whirled his mass of furry blubber in the direction of the factory door. “Jesus you guys, come an' take a shufty. Our Adam's been playin' with his prick.”

Adam mumbled a shaking oath, his body still resounding from the shock of the icy missile. With jeans soaked in stinking ale, he scrambled up from the sand, his back covered with tiny nuggets. “Piss off Joe, you bastard. You're lucky you've ever seen one, that's as close as you'll ever get to having a stiff.” He had learned to return abuse and ridicule at the factory was the only retaliation. In fact this education had been of some use. Fighting them was hopeless, they always won and he didn't want a dunny dousing again.

His words hit a nerve in the dinosaur's tail. A few seconds later guffaws came from the dark and Joe got mad. Out he rumbled again like a struggling steamroller, his belly lapping obscenely like waves of wall-paper glue. Adam danced out of the way, swigging at the half-bottle of beer that had been thrown at him.

“What 'im Joe,” came a roar of voices from the dark, “get 'is knackers. Paint 'em, paint 'em. We'll get the paint.” When this chant started Adam got nervous. Once before he'd been caught and they had ripped down his jeans and painted his testicles black. The turps in the paint had hurt like hell. And getting the paint off was worse. “Aw, come on Joe; don't be a shit,” he pleaded. He had found emulating factory-language had become a matter of survival. When he first started he hadn't thought about things like language. Why should he? He had been particularly proud when 'Bugle', one of his teachers, had dragged a tape recorder into English classes. Everybody had read a small piece from a book. He was really glad that his voice had sounded like Prince Charles. There were about ten in the class like that; the others sounded terrible, very Australian. But when he came to the factory everybody said he spoke like a 'bloody poof'. It didn't take much to copy them anyway. He kept thinking of the raucous magpie of the summer mornings.

“Got the bastard,” screamed Larry with glee. Adam felt himself grabbed from behind, an arm around his neck and another coming up between his legs.

“Oh fuck you Larry, let me go,” he screamed as his testicles were crushed. “Cut it out, will ya.”
Just as he was blacking out from lack of air and pain, a gleaming new car came rocketing around a corner, and splashed up onto the gravelled portion of car park. Everybody had melted into the blackness of the factory's insides except Adam, who was grovelling and moaning in the sand.

Peter had discovered in the past twelve months that the secret to filling his factory with success was to indulge the captains of industry in lavish counter lunches, sprinkled with the right amounts of bawdy humour and beer. Although lately he had graduated to vodka and orange. His success in putting together this formula was really a consequence of a natural disposition he had in this respect. Since arriving in Australia from a country that had cruelly bombarded his first twenty years of existence with contradictions and confusion he had grown to love the simplicity of Australian society. His group of friends was ever expanding. They were all linked together with the joy of survival of the war and the prospect of rapid wealth. They told the same sorts of dirty stories, and dreamed the same carnal dreams. The competition was gentle in this small city of Adelaide. There was enough to go around for those who desired it. The shackles of class and privilege didn't exist here. No, there was something warm and friendly, wholesome and comforting about being in the 'know' in Adelaide.

Occasionally Peter would let his mind slip and Alamein would flick by. A shuddering explosion, screams from below in a tomb of steel, his own body tumbling through the sky, his shredded leg raining rich red blood on the desert sand below. At the instant his universe turned off, the hot metallic shell that had been his home in North Africa for months, disintegrated.

Confusing memories of Peter’s childhood would struggle forth when least expected and wanted. In the dark hours of the morning a strange powerful figure would invade the secure playtime of his life. This mysterious man would journey down from London to see him and his brother, George, and would always leave a mountain of presents. Rich Uncle Ned they used to call him. Auntie Penelope never came. She was very old he was told; and a Lady. After Uncle Ned’s visits Peter always felt a great quietness would come over the household. Nobody would speak for hours. His sister would never receive many presents, only George and he.
They would rush outside after a visit and tell all the boys in the street, ‘Rich Uncle Ned's been again.’ Hordes would converge, the silence would go, the presents would be unwrapped, and Uncle Ned forgotten.

When he was fourteen and George twelve they heard Aunt Penelope had died. The news didn't alter his life much then and the neighbourhood continued to give its familiar warmth. But several months later a large open car arrived. It looked just like the King would drive in. Rich Uncle Ned was sitting in the backseat with a uniformed chauffeur in the front. George and he were ushered out of the lounge, but they could hear their mother's sobs and Uncle Ned's rumbling voice. After a very long time his father came out and solemnly told them that Uncle Ned was really his and George’s father and he wanted them to live with him in London. Hearts were torn, Uncle Ned persisted, and off they went leaving their little sister all alone.

The war came a year later and ripped open the instability of youth even more. Peter's new father, by virtue of his influence in the army, was able to bludgeon an officers' school to accept him. The refractory nature of adolescence, mingled with a resentment for anything that differed from warm suburbia caused Peter to subvert his existence there. How much better he felt when finally he was tipped out of this precious bowl of cynicism and poured into the familiar, raucous, spontaneity of his friends in the ‘other ranks’. His demotion was an act of God, and it gave him, as a callow sixteen year old, the credentials he needed to be a man.

The final act that gave him this freedom from the stuffy business of the officers' school was almost funny. It was sheer coincidence. He had been sprawled beside a Browning machine gun, on a hot, sticky day in July. He had stripped himself down to his baggy khaki shorts to baste himself in the happy rays of a sun that smiled despite war. The low sonorous whine of the Mescheschmidt, purring just outside his consciousness, hardly disrupted his reverie in the grass. It was not until the strafing began that he flicked himself back into consciousness. Half tipsy with sumptuous slumber and sun he scrambled to the shiny metal seat which burnt his bare legs. Adrenalin pumping, muscles twitching, he fumbled away the safety catches and pumped, with a stentorian roar, round after round of lead into the air, in a futile bid to chase the escaping bird of prey. In his excitement he had forgotten to remove
the canopy of camouflage over the officers quarters that hung like the derelict tent of a long gone sheik. The intense heat of the barrel against the tinder-box screen caused the netting to explode into flame. The innocuous strafing of the invader had damaged nothing except the small lumps of turf that had been ripped out of the cricket pitch. But the conflagration that resulted from Peter's exuberant call to arms razed an entire wing of the officers' school. No one really believed he worked for the enemy, but only the 'other ranks' could congratulate him for putting some of those 'bloody officers out'.

For the rest of the war his father disowned him. His little sister was killed in a bombing raid. He felt guilty at first, and then very, very angry at the Germans. Peter got on with the real business of being shot at; and finally had his tank torn apart by a mine while in the searing sands of North Africa. It was after this fortuitous event he spent a lot of time with the Americans in Sicily; although he could have been repatriated to England with his injury. Most of his time was spent guarding Italian prisoners and learning first principles of commerce through black market activities that surrounded him. He was astonished at the skill of his American friends, and wondered why the Jews and not them had earned such an awesome reputation in the industrial arts.

But he wondered too if there was something inherently corrupt in this land of Michiavelli. Full it was of evil Italian princes he vaguely remembered from plays that had been thrust upon him at school. Could it be that this place, or this race, catalysed the search for profit and gain; for material wealth and extravagant living; for 'excess', both carnal and spiritual. His mind flicked over his fleeting visits to the Vatican and Venice, to Pompeii and of course Rome.

And now, here in Adelaide, half a world away, he was beginning to pick the fruits of seeds he had planted in the black sticky quagmire of yet another generation of Italians.

These Australian Italians were already living in houses with enormous glossy terrazzo porches with columns that obviously reminded them of the might of Rome. He knew they had sold their market gardens to the factory owners because they wanted to buy night clubs on Hindley Street and Glen Osmond Road. He knew too that they secretly sold wine in their restaurants so they could buy fully imported Ford Customlines that were as long as his house. Peter didn't really care what they did because he had decided he was
going to make his millions on the soil they had sacrificed. They were ‘dagoes’, and they could spend their money in any way they wanted.

Today he was ecstatic because the old battered FJ Holden with its windows that had to be bashed open, with its windscreen wipers that never worked properly, only jumped in spurts, with its doors that had to be opened from the outside, had finally been buried. He now sat, like a mafia don, in a Dodge Phoenix, stroking his purring new machine that slid, instead of grumbled, over the dusty roads to his factory. Life, they said, started at forty. It was true. In the year since his fortieth birthday the world had become rosier and rosier.

He thought of his son. It was Gaynor, she was a soft mother who was still too English, his wife who had insisted upon sending him to a private school. Peter had always wanted him to go to a state school, and then university (if he was good enough) to do economics or something, so he could help build up the factory, the empire he envisaged. But Adam had become a bit of a ‘poof’ in the last few years. He had spent a lot of time reading and was now writing poetry. His mother had sent him to dancing classes with all the other poofs from the same school. The stuck up little bitches from the girls’ private schools went too. They had hard little mounds instead of decent tits, and downy little cracks where full foliage should be. He knew they only went to the classes to get fiddled.

He hadn’t minded Adam being in the chess team. At least he was learning to win on the battle field. But the poetry and dancing were too much. And he was obsessed with nuclear bombs and sputniks. The only manual labour he ever volunteered to do was to start scraping away good lawn to make water filled bogs all over the place like a crazy mole. He was going to bury himself in one to escape the ‘purification’, he called it. John Kennedy he said was the instrument, or tool, of ‘human destiny’, and would cleanse the world of riff raff, and create a paradise for scientists and artists and all their honest supporters. He deliberated for a minute as he played with the controls of the car radio. John Kennedy was a ‘rat-catcher’ and was therefore capable of anything!

Peter had always joked about dropping Adam on his head as a baby to explain some of his madness, but he was beginning to now think private
schools created monsters. Anyway as far as he was concerned there were no handouts at the holidays. Adam had to earn every penny; and that way he might be saved from becoming a ‘poof’. Working in the factory would get rid of all the bullshit. The boys there were rough, but bloody hard workers. He knew they would make a man out of him.

As he floated into the loose gravel of the car park at the factory, dodging the battered forty four gallon drums overflowing with the flotsam of industry, Peter noticed a flurry of legs disappearing into the abyss of the factory entrance. Adam was lying in the sand, his tanned body encrusted with sticky granules like a doughnut daubed with brown sugar crystals.

“What the fuck are you doing?” he yelled through the car window, forgetting for an instant he was the owner of a brand new vehicle which should have accompanying lordly behaviour and language. Adam was groaning with his hands between his legs. “Christ, ya not pulling yourself off out here are ya? Peter had found in the short period of the factory’s life that talking Australian was easy; and anyhow handier than trying to keep up some pretentious English farce. For God’s sake get that bloody sand levelled, I’ve got Giovani starting to put up the new section of factory on Saturday. We’ve got to start making the frames next month. I want to get a production line ready.”

Adam moaned and felt sick as his testicles throbbed. “That,” he thought, “is the worst pain in the world,” as he stumbled up and lurched towards his dilapidated levelling machine.

For the next half an hour, over the roar of the Volkswagen engine and the scraping of the sand underneath the car’s body he could hear his father screaming at Joe with dictatorial delight. “Why haven’t you friggin’ well finished these bastards?” ...... “What’s wrong with you Joe?” ...... “Jesus, mate you haven’t got a fuckin’ clue” ...... “Oh Christ I’m surrounded by drongos”. And on it went, father’s opera. How he wallowed in the mastery of the expletive, how he enjoyed the denigrating of his minions. What joy it must be to his body to have that adrenalin floating around, summoned by fury and disgust, frustration and intolerance. Here he was the impresario of a grand comic production. He had an orchestra he could switch on or off at will, a stage-set that was growing
every day, and a delightfully obsequious cast that seemed to enjoy his voluble ways. Ah no, there were no prima donnas here!

Adam loved the sun. To him it was the father of all life. In his poems he often wrote of its mating with mother sea to produce life on earth. He imagined too that if John Kennedy helped unleash Armageddon and cleansed the world of its human detritus, the sun and sea could anoint the huge gaping red and open throbbing wounds with soft salt tears, and again new life would appear, possibly wiser and humbler. A race might emerge from the ashes that would not so easily blaspheme nature.

Playing in the sand, smashing down the small hills and levelling the lumps had almost been fun. It was a little like returning to sea-shore days, frolicking on beaches with a bucket in hand, building castles to destroy. He had dragged out this job as long as possible, knowing his father would sentence him to some other satanic task in the darkness of the factory's nether-world.

And his worst fears were realised. For weeks he was sentenced to the moronic monotony of screwing little plastic switches to the small metal platforms that supported an electric motor on his father's latest venture. Adam ran the risk of jamming his fingers between sharp pieces of metal as he crammed on countless hundreds of box-like covers to encase the brain of this new machine of torture. The instrument was a device for vibrating the hundreds of tons of lard that hung off the elderly and the under-exercised around Adelaide. These ‘massagers’ were all the rage with the gross ladies. They really believed that by rattling their bodies with frenetic bursts from a whirring strap, pounds of fat would drop off. With the depths of boredom that made time stand still Adam fumbled with the little switches and forced on the covers.

Lunch times he had to run the gauntlet. Joe was always after his nuts. He gained great delight from creeping up behind him and thrusting his hands between his legs to grab and twist, generating great colourful clouds of red misty pain. Larry liked sabotaging his lunch. If there was a moment between the arrival of the hot soggy pies or the crispy Chiko rolls, he would find some repulsive article he could secrete in the food. An old bandage, a rotten apple core, or the thick white viscous glue that lay in globs around the bench tops,
splattered there as if a prize elephant had just been sired; these were all great pieces of ammunition in his ‘de-poofterising’.

“C’mon Teforp, have ya had your end in yet?” Larry would taunt. “Or ‘ave ya been too busy kissing the bottles of ya poofta mates at ya poofta school?”

These attacks didn't have any sting in them any more. The ‘yobs’ at the factory were so basic and dirty that anything they ever touched he didn't want to know about anyway. He also considered they were probably much bigger wankers than he was.

Since he'd been able to drive a car life had started to become sexually exciting. He'd smuggled a bottle of sherry up to Jenny's parents' place when they had been out one stormy night. She and he had sat in the car with the rain drumming on the roof and flooding over the windows. It had been intoxicatingly cosy, sipping sherry and smothering each other. He had been surprised, almost alarmed, at how easy it was to get a ‘seven’. She had let him slide his hand down inside of her bra and flip the beautiful scented flesh out of the cups. And his hand had wandered on unobstructed, until he found a warm moistness that made him tingle with anticipation. Sheer pain and ecstasy had flowed from his groin, and his hot blood swelled his adolescent lance so rigid he felt the flesh at the end must be tearing from sheer pressure. But his, not her, bashfulness and awkwardness preserved two virginities for yet another Saturday night.

In the dying days of the holidays, as the summer grew stronger, Adam was lured into the paint booth by his father. “This job”, he explained with feigned dignity and repressed relish, “requires great skill and talent.” Adam could see this was not altogether untrue. If he held the spray gun in any one place for more than an instant runs would appear everywhere. He had to keep the gun on the move. Nobody else wanted this job because the booth was unbearably hot. When he had watched the others at work he noticed they wore their jeans only; no t-shirts or anything else. They didn't use masks either, these useless articles had been lost a long time ago. Probably they were buried in the foot or so of sawdust that covered many parts of the factory floor like a thick grey mantle; dust was mixed with this soft essence of sawn tree.
“I want ya to keep painting these panels with the matte black,” Peter said, as he pointed to one of the masonite sheets that were being used in the heads of the vibrators., Adam noticed everything was black. The walls and ceiling of the booth had inches of black coagulated paint stuck to them like some bizarre, hellish fresco. Black was the dominant colour on his father's palette; anything painted bore this brand. “Unfortunately the extractor is not working, so watch out for the fumes, they can build up pretty quickly and your goggles will be blurred. Then you won't see the runs. Its best not to wear the goggles. The other guys don't!”

As he pressed the trigger a fine spray of condensed void formed in a cloud to coat the wooden panels. The compressor throbbed away like the heart of some primeval creature and forced the black liquid through the long, snaking lines until it finished its journey with gusting sibilance.

Adam found it particularly hard to breathe in the booth. It had always been difficult enough to get fresh air in the rest of the factory, where a fine suspension of sawdust perpetually hung in a smoky gloom. But in this chamber it was almost impossible. After a few hours of inhaling the evil blackness that billowed out Adam found he could pick large lumps of mucus, thick and sticky like pitch, from his nose. To his alarm he also discovered his chest rattled a lot and he could bring up thick globs of phlegm that looked like coke.

“Its the black death,” jeered Joe, as he sat pushing mountains of potato chips into his cavernous mouth with stained fingers. He washed down the entire mess with a deluge of Coke. He rolled the empty bottle across the floor to join the hundreds of others that were half buried in filth all around the factory. “Everybody here's been slaggin' up that shit for the last six months. Your old man reckons if you smoke it keeps the paint dust out of your lungs. But that's more bullshit.”

Unthinkingly Adam pushed the door of the toilet open to be forced back by the stench of a well-used facility that hadn't been cleaned since its opening a year ago. There was more graffiti in this one cubicle than all the rest he had seen in a life time. Most of it revolved around his father and various depraved sexual acts. He retreated and relieved himself outside the back of the factory where he could conceal himself between the rising mountains of rusting junk.
Peter had found family life less satisfying in the last year or so, but the factory would always give solace. He had tried so hard to make the dinner table a time and place for ‘culture’. First he had insisted that a word a day nobody understood be selected from the newspaper. Unfortunately Adam, ‘the smart arse’, knew all the words. Then he had tried healthy debate, but this always degenerated into a screaming match with Adam storming off to his bedroom, or mother leaving the table in tears. But he kept on persevering.

“The thing that makes Australia great is the lack of a class system.” He offered this generously, roast lamb and mint sauce still mixing with the peas in his mouth.

“Dad, can I have some money to go down to Victor Harbour tomorrow?” Adam whinged.

Peter continued. “Here every man has the chance to make it. If you get off your arse and work hard you can get what you want. Look at the factory. Two years of slogging my guts out and things are looking good.”

“Can you give me a fiver for petrol? All the other guys are going down.”

“In England you were forced to accept your place in life. If you were a worker, that was it. You'd never own the factory. A life of drudgery forever. Never any hope.... You haven't worked up the factory for weeks, why the hell should I give you any?”

“He's been doing exams and studying Peter. He's done his ‘Leaving’ this year you know.” She was the muted mother of an aggressively male family. She offered her comment feebly.

“He can work up with me for a couple of weekends before he gets any more handouts. That's final!” He raised his voice to a provocative level and Adam took the bait.

“Stuff your factory. I've had that stinking place up to here. Its a hell hole. The black hole of Calcutta would be like a five star hotel compared to that dump. I'm not working there any more.” Adam uncoiled the spring of his anger that had been tightly wound and held for a long, long time. “And you can stick your flamin' great Australian worker,” he yelled as he pushed his chair
back so violently it fell over. “He’s a bloody great selfish wanker. All he wants is gold-plated mediocrity. Not one of those phonies thinks anything about anybody apart from themselves.”

Adam continued yelling as he stormed out of the dining room. “What the hell has Australia given you except a rusty tin shed, some filth to wallow in and some dumb slobs to push around? All of you ‘business men’, if you call what you do ‘business’, are all the same. Narrow minds, narrow horizons. But you wait. Just wait. The cleaning up will come soon enough!”

Peter started to glow. His balding forehead throbbed crimson through a sparse foliage of grey hair while white wings of fluff sprouted above his ears. When his son had apparently ceased his outburst, he looked menacingly at the doorway. “That little bastard can clear off as soon as he likes.” His words fell straight into Adam’s ears as he appeared unexpectedly at the door again. Adam gulped air like a drowning goldfish.

Again he fulminated forth his anguish. “At least in America the wealth and hard work of everyone gets directed towards great goals. Kennedy will put a man on the moon in less than five years. Yes, they’ve got things this second rate frontier hasn’t. Look at Disneyland. And even when they were young and raw, like you think Australia is now, they had real pioneering spirit and dreams. They built bridges and roads and monuments. They all worked together, and got wealthy too. Not like here. All you can think of is making your nest a little bigger, and adding a lot of tinsel to it. Like a big black fat crow, you find a used piece of shiny paper and add it to your pile of sticks to make your pile of crap a bit prettier, a bit better.” This time, as part of his crescendo, he slammed the door as he left.

Peter turned mutely to his wife, staring at her, as he ground his teeth. With a little too much haste he consumed what remained of the ice cream on his dish and then walked determinedly from the house.

When he settled back into the luxury of the Dodge and vented his anger on the obsequious accelerator leaving black rubber imprints of contempt on the driveway, he felt better. Recently some of the magic of the free enterprise system had been revealed to him. He knew now of the marvels of cash transactions and the joys of the expense accounts. He could lunch in any of those expensive dago restaurants now. Occasionally too he would go to a
nightclub and some of the places had started to put on strippers. It was more than just the raisin coloured nipples that excited him, or the flashes of smooth rounded buttocks. He knew that with his increasing wealth he was getting more power. Some of the other guys had already been paying for a lot of sex on the side, and they told him it was pretty good too. Young, firm, hard-working, with big hungry mouths.

He'd never paid for it, not even in Italy during the war. Over there he was scared of getting a dose of the clap. Here, well, he was married. Not that Gaynor made him pant. In fact, love making was, all round, a bit boring with her. But, life was good. He had the freedom to choose. As he accelerated up the newly sealed road toward the factory he thanked the Council for their strips of bitumen. The value of the factory had more than doubled in the last few months, with the extensions and road improvements.

This evening, like every evening, he was happy to leave the dinner table, and dissolve the stupidity of family life by returning to the factory for a few hours. Tonight however the closed circuit television was going in. He had noticed recently a large number of tools were missing. Also some of the cans of paint and paintbrushes for his new product were disappearing at an alarming rate. This new system, he had been assured, would solve all of his problems.

He climbed the hastily constructed timber steps to his mezzanine office. This precarious entrance had been economically constructed from timber off-cuts, and while looking a little rickety and taking the skill of a mountain goat to climb, had a certain grandeur. Certainly the mezzanine office afforded a lordly view over the rabble below.

The office presided over the factory and its lessons in frugality were an example to all. Its walls had been hastily constructed with the thinnest of materials, and then wall papered in a most efficient manner with the cheapest of papers. The floor, created from scraps of flat metal, had been carpeted with stained shag pile rescued from Gaynor as she remodelled their house. The desk and shelves all belied their origins. They were in fact built from factory scraps, given a new existence by a Cinderella process. The entire cubicle was drowned with business. There were invoices and receipts, cancelled cheques and registration forms. There were patent applications and insurance forms,
blue prints for new ideas and taxation documents. Here were the entrails of his industry, disgorged in one great mess; in parts feet thick, in other places only scattered thinly. Some piles had been untouched it seemed for centuries, the thick sediment of dust sealing in secrets, mummifying mysteries of this place. Peter drew warmth from this tomb. His life and universe were all here. Often he sat, motionless like a forgotten pharaoh, content with his regal trappings away from the rest of the world.

As he entered the portals of his kingdom he looked with dismay and noticed some white coated adolescents were rudely disturbing the mantles of dust as they bolted two television screens to the teetering walls.

"The monitors are working now, look sir!" a shrill voice pleaded. Peter watched as a grey and white mass flickered onto the screen. The technician fiddled with the knobs and brought the catastrophe into focus. A hastily painted sign had been propped up a few feet in front of one of the cameras. ‘Fuck off Big Brother’. Several arms were waving two fingered abuse at the camera, their attached bodies being out of vision. Peter recognised Joe's chubby, filthy hand and switched on the public address system.

“All bonuses will be abolished this Friday if the sign isn't down within ten seconds,” he bellowed.

A chubby paw reached out and grabbed the message. The waving arms disappeared. He felt the smug satisfaction of a P.O.W. commandant as he flicked off the P.A. system. Both his new toys were going to be a lot of fun. “He had ‘em screwed now.” Peter let that tantalising thought bathe his ego.

1963

John Kennedy had gone forever, and Adam had a bad feeling. More assassinations would occur. Adam lamented the death of his hero and decided to leave school.

Mother was furious, she had wanted him to do medicine. His father was rather pleased and offered him a job in the factory. Adam however had decided that working outside, physically exerting himself, was the most salubrious solution to his state of melancholia. He quickly found that good honest labouring on building sites had a healthy pristineness about it, unlike
the murky defilement of the soul he experienced in his father's rusting dungeons. In fact he struck up acquaintances with kindred spirits amongst the crisp bricks and rubble, the clean mud and sand. He found fellow poets, and religious mystics, of sorts, who were the philosophers of the great unwashed. He found artists and actors and other clever people who were sensitive like he to the foibles of the world. Soon he found, as a callow seventeen year old, he was being invited to the inner sanctums of these revered people, where wine flowed from the flagons and the room would occasionally spin wildly as he flowed into unconsciousness. One evening at the dining room table with his parents he was suffering the usual batterings of a ship in a gale: so easy is the prey of vulnerable youth to cynical adulthood.

“You're not going to last long in this job either,” his father threw the words across the table. “You arrive after midnight, every night, pissed as a newt. Your clothes are a disgrace. Are you trying a bohemian or beatnik image? The bum fluff on your face won't pass as a goatee! Christ you must live in those clothes. But I grant you can't be all that scungy, you still spend friggin' hours under the shower. God knows what you do under there.....? Certainly I don't want to. Its probably quite disgusting.”

“Peter,” dared Gaynor, “don't be so coarse!”

“Anyway, the factory is flourishing despite your absence.” In the one breath he continued, “I had lunch with Jeff today, you know, ...the bank manager. We went down to the ‘Maid’ for a feed, but the service was terrible. We had to do a ‘dead ant’.”

Adam groaned. The dead ant protest was one of the grosser acts of tolerated exhibitionism that his father bought by over tipping. He and his colleagues would lie on the floor, on their backs, in the middle of a restaurant. Arms and legs would be contracted, but poised in the semblance of some dead insect, presumably an ant. This act of despotic protest invariably gained enormous applause from other diners, and embarrassed succumbment from the staff. He had only witnessed it once and wished a giant aardvark would have appeared at the time.

“Jeff said we're doing well. So I'm inviting my brother over to live. He must be getting sick of Canada by now.”
Later that evening his father telephoned George and alluded to the copious crocks of gold he had been storing for him in Australia. This was the beginning of a bout of dynasty buying and family aggrandisement that went on for some years, each time ending in shattered illusions for the fly drawn to the honey. This crumbling of castles usually occurred within weeks of the victim arriving at the shabby Mecca called ‘the factory’.

Adam waited with interest for George's arrival. He had heard a lot of his uncle’s exploits, having travelled around the world many times, he believed.

George

George arrived on an explosive morning. Adam was exhilarated with the surge of goodwill that he found as a novice. The combining of cheap claret with slimming pills the night before helped his mood. Everything radiated energy and harmony and he found it difficult not to talk continuously. His mouth was dry, his tongue rolled around incessantly and he clenched his teeth in glee as little spasms of goodness welled through his body. Everything George said dripped of mentorial splendour.

He had been to Russia and had been there about the time of the ‘Bay of Pigs’. Good God, how did he manage that? He had driven down from Vancouver, right along the West coast of America into Mexico. He had even heard of Kerouac, and Ginsberg. He’d been through Disneyland. He knew what peyote was. Adam revelled in George’s sagas for days until gradually his uncle became enmeshed in ‘Peter's Projects’ as his father's new company was called. There was something puerilely ambitious in that name, something unhealthily expansionistic.

George looked at the bleached blue eyes of the youth in front of him and wondered. The dilated pupils with the far-off stare had the disconcerting eeriness of the agitated zealot. He noticed how the jaw muscles worked and the feet shuffled, reflecting the sort of impatience he had seen years before in his older brother. Peter had become controlled by a demonic restlessness shortly after they had been whisked away from their real parents by their ‘new’ dad just before the war. He listened patiently to Adam's staccatoed questions
and answered with a sufficient degree of cryptic sensibility to maintain the aura of a mentor. This was the small prize he would extract from the adolescents of the world to re-charge his own spent psyche; to rekindle his own lost youth.

His gaze systematically scanned the other family members as they all huddled there in the midst of the shabby medley of forces that reverberated around the unfinished trusses and columns of the airport.

His brother had diminished slightly in height over the last decades and carried a corpulence that exuded his new-found wealth. His far off stare had been transmuted to a crafty and shrewd visual bludgeoning of the present, and a myopic view of the past. His voice had lost the conscious deepness of post puberty to the raised tone of later years. In fact he had developed now a shrillness, borne of cultivated frustration and napoleonic stances. All with that Australian twang.

Gaynor caught his eyes for an instant as they hovered over her sadly deteriorating frame. He noticed she effused red and memories poured back of his furtive day in London during the dying days of the war.......  

It had been four o'clock and a lonely walk. A soft quilt of soot-tinged London snow had snuffed out the sounds of the Strand. George had been ambling along. His attention was arrested by the sensuous figure of a woman silhouetted against the glare of a small snowdrift piled up against a shop front. His aroused curiosity drank in the slim waistline and the shapely legs. The back of her head, all he could see, was a mass of long dark tussled curls. He was at the apogee of youth when the full significance of his gender began to erupt. His desire, to at least meet and speak to this goddess was momentarily muted by his natural shyness. War time had passed him over quickly only giving him a uniform for the last year but no conflict. So there was increasing dissatisfaction with his own impotence. The Strand too was almost deserted, and she looked lost, just standing there staring into a flower shop window. Casually George moved up alongside his quarry, his hands thrust deep inside his great coat, the collar pulled up high, minimising the exposure of his real self.

"I say,” he began warmly, “those are gorgeous flowers, aren't they?”
“Yes,” she replied, not looking at him. “Perhaps they are a sign of things to come. I haven’t seen so many flowers in the shops since the war began.”

George was able to see her profile now. And her beauty was as he had expected, totally flawless. Her full countenance was visible as a reflection in the florist’s window. The pure unbridled lust he felt grew. The cloak of his great-coat could hardly closet his animal intention. His conscious intention was that of warm conversation and a flight of fantasy into a love affair. However his underlying animal spirit urged him on to more reckless thoughts of hot carnality.

“Are you waiting for someone?” George asked, wondering if he sounded as awkward as he felt.

“Waiting,....waiting,.yes I am waiting.”

“Oh,” he said lightly, almost flippantly. “I was hoping you might like a cup of hot tea and a biscuit. But never mind.” His jovial notes were totally at odds with the deep chasm that he felt open up in him. The pressure in his groin eased.

“Tea, oh that would be nice,” she replied. “Yes, something warm.”

“But, I thought you.....,” he decided not to continue. But raced on, “There is a delightful little tea shop near Piccadilly I know. Let’s go there. Its only a short walk.”

George had held this little gem of a place in his thin wallet of romantic memories for a long time. The interior was all dark timbers and rich red curtains and rugs. The small polished tables were discreetly placed to allow private conversation. The lighting was soft and low, and the whole snug place glowed a rich amber colour, making everybody take on a slight golden, almost angelic sheen. Yes he knew it well, and had held it in reserve for just such an occasion.

George felt the tension grow again in his groin as she accepted the arm he offered with a flourish. Little did she realise the embarrassment and fear of refusal he was flooded with. He acted out well his cavalier role, yet his insides boiled with nervous effacement.

“Are you American?” she said, and paused, “No, of course not .... have you served with them?”
“No,” George answered, rather surprised and conscious that his speech was normally well-enunciated, English and middle-class. “Why do you ask?”

“Oh, you said the flowers were ‘gorgeous’. I've heard Americans, and others, use that word so much just lately.”

“Oh, I see,” he replied, a little vacantly, wondering whether he should hold her arm when they crossed the road. He decided to let go, using that arm to make a gesture. The act had to be very natural. “We'll cross over here. Its quicker.”

His mind whirled for the eons of seconds they spent endlessly crossing the street. Would she respond to his arm again? The thought blocked all other activity in his brain. So much so, he stumbled on the kerb as he finally reached the other side. Her arm flew out quite spontaneously to help him. He folded her arm in his once again, content now to consider what impending joys could arrive in the ruby lambency of the tea shop.

When they arrived their coats were taken and hung on a thick brass stand. George noticed immediately the sensuous curve in from ample yet firm breasts to slender waist, and back out to hips that were wrapped tightly in an expensive emerald green dress. His eyes were locked to her body as she glided between the tables to slide into a chair which he tremulously moved in beneath her. As he sat down George became very conscious that she was staring at him, and he realised for the first time her piercing green eyes. They floated and shimmered and asked searching questions, and hid great mysteries. Almost with a drawl, her shining rose petal lips pouted to a smile as she asked, “What is your name?”

“Oh my God, I'm so sorry,” he said self-consciously. “What an absolute fool I must seem. George, ...George is my name.”

He didn't offer his surname. And neither did she as she quaintly, almost coquettishly, offered her hand and replied, “I'm Gaynor.”

For hours they talked over tea and cake, he savouring every word that she uttered, fondling in his mind every second the visual feast she provided him. She was content to rest and chatter.

George was confused at her apparent disinterest in the appointment she had alluded to earlier, yet was loathe to broach the subject for fear of shattering this delicate miracle. Finally it was Gaynor who painted a bizarre
picture. The picture was of an obscure roguish sounding gallant she had met two years earlier. The portrait that coloured his mind was of a dark, handsome, heroic type. She last saw him as he sailed for North Africa. He felt un-bottled jealousy fly through his body. Yet where was the danger? This wondrous young child of nature, he guessed eighteen or nineteen years old, had spent the last two years in dreary isolation. Time had stopped for an eternity while she worked unnoticed in the backroom of a post office in Fleet Street. Her family had all been incinerated in one cataclysmic episode. A ton of steel dropped as inconsequentially from the sky as a large ball of hail. And she had been waiting for the man to return who was the one fleeting link with her lost family world. But he too had been listed missing for the last six months.

When they left the tea room it was dark, but the world was not invisible. The moon was full and its strong rays irradiated the soft billowing quilt of snow that covered London. He took her arm gently and asked where she lived. It was only a short walk across the rushing Thames to her bedsitter. He wanted not to push himself upon her on this first occasion; he might crush the life out of a flower that he wanted to blossom forever. But it was she who dipped her hand into his and urged him to join her for a small brandy.

His surprise was genuine as he stammered “thank you”.

Her sophistication was far in advance of her tender years. “You look quite alarmed George. Is it indiscreet for a young woman of London to offer hospitality to a new-found friend?” She said this casually as she slipped off her coat to reveal again the tightly fitting emerald dress. It seemed to hug her body even more provocatively as she slid her feet out of her shoes and drew her legs up onto a chaise-lounge. She pointed a little indolently to a crystal decanter nestling among a few wine glasses of assorted sizes and shapes. He eyed the amber coloured liquid cautiously. “Would you like to pour us both a long brandy to lock out the cold?”

George nervously twiddled with the stopper and with graceless excitement poured two large drinks. His hand shook, but he blocked the view from his hostess by slightly turning his back.
“I must say I haven't seen much of this around for a while.” He ventured this comment with some trepidation, lest she take offence from unintended innuendo.

“Oh, there has been one, ‘spiv’, who has constantly been asking me out. He works at the post office. He is a wretched, balding little man who is insensitive to reproach. I totally refuse to have anything to do with him, yet he pours these gifts upon me. I would hate to think where he gets the things.” She looked solemnly into the glass George had offered and with marvellous feminine poise raised her hand gently and took a most exquisite sip.

George lingered over the warm fumes and said nothing. They both fell into a long expressive silence. This was a still pool in time when underlying thoughts and emotions take a while to catch up with the words already spoken; the period when nothing is said and everything is meant; when for a pair all the pieces of two universes fall together as in some great cosmic jigsaw.

George unbolted the brass buttons of his tunic to feign deeper relaxation as he lowered himself to the carpeted floor next to the chaise-lounge. His elbow touched the pedestal and his fingers ran along the velour until they touched warm nylon. Without consciously meaning to his body released a silent sigh when the warm flesh he touched didn't shrink. His hand stopped on a perfect ankle, but his carnal conquest was blocked by inexperience and embarrassment.

“Black out, black out, my God, black out!” came a shrill cry from a clearly harassed warder, only a breath away.

Gaynor raised herself delicately and tip-toed to the sideboard where she lit a long slender candle. She floated across the floor to lightly touch a switch which plunged the room into a rich anonymous fog. George looked in disbelief as she moved away from the halo of the candle and dipped her head, pouring tussled curls over her face. Gracefully she unzipped her silken robe to reveal a bodily splendour that made a mockery of the Greek sculptors’ attempts to hewn perfection out of stone. Her ample breasts overflowed the receptacles that tried to contain them, her taut white petticoat clung to her hips that were so sensuously designed. With an abandonment that detonated desire within George she reclined again upon the lounge pulling his hand up and placing it between her legs.
George was inexperienced. Yet his fury carried him through his first orgasm which drenched his underwear, even before his garments were removed. The hot sticky stuff of lust caused him no embarrassment as he buried his head beneath her slip and thrust his tongue into her navel. He pushed his hands beneath her buttocks and gripped silken material. He ran his tongue down across her stomach. Again hot glory pumped through his bursting, pulsating member. The lubricant that services all mankind was dispersed with rapture. But his heat was so intense there was not a rhythm lost in his throbbing clamber to enter her body. He revealed with a dexterous twist of her brassiere two fleshy mounds that heaved in anticipation. He poured his face into the dark crevasse-cleavage that flickered in the dim light, occasionally sucking the soft raisins on either side.

Carnal ecstasy is a compound, George had time to think, which if all the molecules are in the right proportions, a binding will occur, and will last a lifetime.

He poured himself into this labour with such diligence that soon shrieks of delight were being forcibly restrained by Gaynor. He could go on forever now, the pent up dam of youth was twice more released.

After an infinity of bliss both groins merged and friction was gone. The juices rendered love-making a softly syncopated pushing. She pulled flesh from his back as he flipped her over, revealing two smooth hills that he licked and caressed. Then he ran his tongue up and down her spine before finally grasping both her breasts from behind. Her curved raised body and holy wetness welcomed once more his unbending self which pounded on.

As he lay on the carpet with her he felt confident he should not feel embarrassed about this raw introduction into the world of flesh. He had let his body and essence react naturally, if not a little ferociously; yet he knew total harmony had been theirs. After hot whispers in willing ears, many promises were made for future meetings. The tea shop at five tomorrow would, she promised, commence their assignment of love.

The next day George wandered slowly around the side street near the Strand. Although not 5 it was nearly dark and time for blackout. Most of the shopfronts exuded a warm light through the panel windows. This was a brief moment of normality before the wardens came around and demanded that all
the inviting light be snatched away. There had been hardly any bomb damage to London in this area. The shops promised security in a very English sort of way. Small groups of people stood outside looking in. Some were inside looking out. They tittered. They giggled. There were very few vehicles on the road apart from those that obviously were military. Horses and carts were in use again. And this added some quaintness, even stable history to the whole scene. Thoughts were thrown back to a secure comfortable childhood. The baker, the butcher, the iceman all clumping along safe familiar neighbourhood streets. A past so different to this desperate, empty war time ‘now’.

When George arrived at the appointed hour and sat in the same booth they had chattered in the evening before, a matronly looking waitress passed him a sealed brown envelope.

“Here you are love,” she said, “The pretty young lady asked this to be passed to you.”

Confused, he quietly and meticulously tore open a corner of the envelope and peeled it back. Carefully he read the contents, amazed and bewildered.

“Dear George,

For nearly a year I had really given up all hope of seeing Peter (my fiancée) ever again, after his disappearance in Egypt. But, as though heaven had frowned after our intimacies last night, he appeared on my doorstep early this morning. Oh George, he is wounded and lonely. He desperately needs me. I beg of you, as a gentleman, to keep our moment of bliss a most cherished secret, as I always will.

I can never see you again, Gaynor.”

But, the cruel trickery of coincidence had not played its last game. Several weeks later George heard from his brother, the first time in years, inviting him to his wedding. “Man, you must meet this angel of mercy, she is a real beauty. Wait until you see Gaynor, she is a queen.” Through the wedding and few subsequent meetings over the years George had been totally discreet....
George pulled himself back to full consciousness at the airport, aware now that the easy exchanges and pleasantries were over as he grappled with his luggage, passing it to a panting, enthusiastic puppy called Adam.

The homeward drive was interesting, although he could not really see signs of the Eldorado so frequently described to him by his brother. It was late January and oven-hot. If the snow powdered war time London had been a sort of heaven this was hell. Through the open windows of the car George could hear the raw, raucous cries of crows. They had the same guttural sound as the Australian accent. The land was flat and uninteresting, the city small and grey. The suburban housing was unimaginative in design. A large part of it promised inevitable decay into a ghetto, one or two generations into the future. Grey asbestos sheets hammered together into rectangular boxes served as housing for these desperate people. Occasionally George would spot a more traditional house, proud in its Victorian character; soft in its construction of stone and brick. Luxurious gardens, only a few, suggested some sensibility of the owners. George felt he was a long way from his own home.

After disgorging his luggage, George relaxed for a few days, most of which was spent filling Adam's ears with tales of adventure and the family's past. After this he found he could resist Peter's beckoning no more, and succumbed to his importunings to join him at the factory.

The mental picture he had drawn himself was of a respectable factory, possibly an acre or so in area, with a properly serrated roof and at least some brick walls like a factory should have. He had expected, like on some of the industrial estates of England and Canada, to find a properly sealed car park, some trees and flowers softening the harshness of industry, and maybe a small fleet of brightly coloured vans, forklifts, and other service vehicles parked neatly outside.

But here was a shanty town of corrugated iron, gasoline drums and piles of broken wood, all spattered with rust and paint of a myriad hues. The lawned moat he had imagined was a sea of rubble and sand. Carcasses of half-stripped, cannibalised machines were the bizarre pieces of sculpture that adorned the car park.

"It mightn't look much," Peter started, "but she has grown dramatically in the last few years. When I began we only had the one shed on one block of
land. You can see how that section is a little greyer and rustier...” He pointed to a quarter of the tin temple that looked particularly forlorn. With a ghoulish wail of machinery tearing at his ears, George cautiously followed Peter around, trying to avoid tripping over bundles of sharp mangled steel and ducking his head, lest he lose an eye to a shaft of thin wire lying in wait.

After an hour or so of Peter’s adulation of the work-God, George decided that the factory had to be hell on earth and he would play no part in it, despite the high offices he was bribed with. Assistant Managing Director,...General Manager,... Peter reeled them off as part of his ploy to tie in the family to his business. No doubt he meant to be generous, yet what he offered was all illusion and filth.

George had been traversing the rivers and forests of the world. He had beheld its vast cities. Princes of commerce had talked with him, revolutionaries had shared their secrets. He had walked across the vast deserts of America and seen where sand had been turned to glass by an atomic bomb. He had ridden the highest, most ferocious seas and been over-towered and dwarfed by the most monstrous rocky crags on earth.

As Peter started to wind down his high flown praise of the mighty machinery that was pounding out a new generation of millionaires, George wondered about his health.

“And how is your heart now, Pete?” he asked, carefully sliding in the question so that it would not appear to detract from the religious solemnity of his brother’s message. He was aware that during, and immediately after the war, his heart had been ravaged by rheumatic fever, leaving valves scarred and terribly inefficient in their pumping of his life’s blood.

“Me, Christ man I’m as fit as a mallee scrub bull. Mind over matter! No prick of a poofta doctor is going to tell me that I’m an invalid. In fact, the only time the old ticker goes a bit queer is when I have upside-down sex.”

George was sorry he had asked. When finally Peter took him home he was happy to sit in his room by himself and think things over.

Forestalling Peter over the next few days proved to be very difficult, as he was so enthusiastic to get George on the production line. After clandestine meetings in the city, sweltering in long queues and being abused by an array
of shop assistants and tourist agents, he discreetly informed Gaynor he was moving to Queensland.

It's as though sun and sand are not enough for me Gay. I need lush vegetation and thick growth. I need greenness and density, rich rain and air. I need a solid, full world where everything thrives and flourishes, not just a few things near the waterhole."

He rang his brother at the factory and tried for fifteen minutes to compete with the shrieking din in the background, explaining that becoming a captain of industry was not really what he wanted. Peter was confused, and between screaming obscenities at the workmen, and telling George to 'hold on for a minute', he decided to silently steal away leaving the telephone off the hook. He whispered a ‘cheerio’ to Adam who seemed to have lost his initial inquisitiveness so obvious at his arrival. As he walked lightly down the foot path he waved goodbye to Gaynor, who had filled out with age and had become quite mute under the influence of her husband and Australia's raucousness. She just couldn't compete, he thought sadly. As he turned the first corner a gigantic weight seemed removed from his mind. It was though an incubus had been cast out. He knew the family was in decline, and as it fell a lot of ugliness would follow it into the abyss it created.

Party Time

Peter wasn't unhappy when his brother left. There always was something peculiar about him. George didn't smoke at all, not that that was all bad, he himself didn't smoke much. It was his pompous attitudes. He wouldn't go into a room where people were smoking, let alone where fly spray had been sprayed. He was fussy with his food, and always dressed in old-fashioned clothes. You wouldn't catch him dead in modern things. As he chewed over a piece of stewed steak (he had repeatedly told Gaynor he hated stews) he announced, “I think George is a commo!”

“Why?” asked Adam, “Just because he's been to Russia and won't eat canned food?”

“That's part of it.” He finished his stew in silence.

“I think he's a bit sweet on you too Gaynor,” he added.
“Oh you’re nuts,” she let slip a rare comment.

“He obviously doesn’t like work. He’s never kept a job for very long. Worse than that, I don’t think the duffer even likes money. He’s nuts. Not me. I tried to get him interested in the factory, he could ’ave been the boss if he wanted.” Peter paused, chewing hard on the steak. “I need to spend more time marketing anyway!”

Adam was convinced that ‘marketing’ was a code word. Lately his father had been wearing expensive clothes and had bought a new American car, a pink Rambler. Suddenly he had discovered lobster and oysters, prawns and scallops. His dining out had become a sacred ritual. It was curious how he always went out in groups of four or six, the wives of his guests were frequently quite young too. The expense account now was limitless. Cash was always in great supply. And the word ‘marketing’ kept being bandied around. He was sure there was a connection somewhere. ‘Cashflow’ occasionally popped up and Adam didn’t understand. But, more frequently ‘cash sales’ popped into his furtive discussions. This Adam did know equated to long, expensive lunches and dinners.

“Well, anyway, he’s gone....I think its a bit odd too that he's got to his age and hasn't been married. I wonder if he's a fairy?”

Gaynor gagged slightly at this imputation.

“I rang England today and asked Roger if he wanted to bring Mary over to Australia.” Again Gaynor expressed surprise, this time by dropping her teaspoon with a clatter onto a white china saucer.

“Who the hell is Roger?” queried Adam.

“He is your uncle on your mother's side,” Peter replied. “He’s semi-retired he told me. More likely out of work I bet. Anyway, when I offered the fares and accommodation, he accepted of course. What do you think of that?”

“We’re turning into a half-way house for overseas relatives, are you trying to buy a family,” quipped Adam.

With not totally unexpected volcanic violence, Peter screamed at his son, “What the fuck are you talking about...a half-way house. What about the dregs you bring around here. Christ, half of them look as though they're refugees from Bombay. And you... you treat this place like a Salvation Army mission home. You turn up when its feeding time with the regularity of
perfect bowels and you climb into bed whenever your scummy mates are
using their flea infested straw for orgies you're not invited to. I tell you, you
can piss off whenever you like. Except ya keep hanging 'round like garlic
fumes round a dago'! The trouble with you, ya little wanker, is that you don't
understand generosity. Poor bastards like George and Roger have got
nothing. No money, family or balls. I'm asking them to come to Australia to
share in its great future. Here they can make something of
themselves, ... build a life!"

"Bullshit!" Adam exploded and left the room, slamming the door.

"Jesus, that boy has one hell of a chip on his shoulder you know. He's
like George too, doesn't like work.... a bloody poofta."

Some months later, after Roger and Mary had been and gone, Adam's
father approached him with an uncharacteristic softness in his voice.

"Mother and I are going for a trip to Queensland. We thought we might
see George and I can run a new car in at the same time. We want you to look
after the place. Try not to wreck it. I've left Larry in charge of the factory. All I
want you to do is deposit the money in the bank every couple of days. I'll give
you a hundred quid if you can do it for a fortnight."

Adam was still half asleep, but he agreed. He had all but lost his last
labouring job through too many late starts. The joys of sleeping in had
overtaken the naive enthusiasm he had earlier shown for swinging a pick and
pushing a shovel.

The feeling of freedom and power to walk around the house,
unchastened, raiding the fridge, taking a sip from the bar (ah the bar, the
ultimate shrine to consumption), telephoning friends whenever he liked. This
was a little alien at first, but extremely exciting. After a week or so loneliness
started to gnaw at his regal existence. His mind was flushed with
rationalisations.

What ignominious behaviour he had suffered at the hands of the cretins
at the factory. While he had been wrestling in his most sensitive years with
obscure moralities, wondering whether to invest his life in a monastery of art or
science; when he had been exercising his sensibilities and writing the poetry of
Life; when he had been dilatory in his exploration of the sensual world,
believing that immediate gratification was not the 'right' way; the buffoons in
that 'dark satanic mill' had been painting his testicles and otherwise sexually terrorising him. He owed, he decided, the factory and his father nothing. He was now, after all, only a well-read labourer, a legacy bred of the despair and social disruption interjected into his formative years.

Adam decided it was time to reciprocate. Vengeance was not what he sought, but justice was. Now he would enjoy a little bit of the spontaneous pleasure he had so conscientiously denied himself in his aching years of puberty.

Dissolute behaviour, Adam found, was wonderfully easy to engineer. His friends needed no coercion at all to arrive by the car load. Food disappeared from the pantry and fridge with a rapidity only witnessed in Amazon jungles when soldier ants or piranha are let loose. By midnight there was a constant stream of revellers making their way through the portals, in both directions.

As the hours passed it became apparent a cadre of twelve or so diehards, most of whom he knew, had decided to stay permanently.

Julianne, a girl he had always supposed to be of the highest propriety, continually walked around, only in her briefs, thrusting out a magnificent pair of breasts, hanging like small pendulous watermelons. They were caressed and kissed, licked and patted by all. Finally Adam saw her slumped naked body lying provocatively in a pile of damp cushions in a position of eager want. However her lips and long lashes and the ends of her long blonde hair were crusted in dried vomit. This putrescent mask worked marvellously as a chastity preserver.

There were broken beer bottles on the kitchen floor that he intended to clear up. For the last hour or so he had engaged himself in stuffing wads of chicken wire into several gouges that had appeared in the gyprock walls. He and Brian, an old friend and young artist, filled the holes with plaster of paris. They smoothed the wet stuff with a wide bladed knife until a professional looking repair had been effected. A major problem fermented in the laundry where two sinks lay full of putrid stuff belched up from sated youthful stomachs, unused to liquor. No one would pull the plug on this quagmire of communally regurgitated stew. Even Adam as the grand host was loathe to plunge his arm into this foul mess. Entering the room itself required enormous
control to fight the paroxysm of retching that would bubble to life as bitter fumes assaulted the senses.

It was in the twilight hours of early morning when Adam found he was the only party-goer who was not bedded and locked in carnal glee. He looked again at the crumpled pile that was Julianne, and then lifted her light, tight, well-shaped frame, with the oversized grapefruit mounds sliding to one side. Stealthily he made his way to the one room he had secured against the pillage of the party, and in which he had plotted to lose his virginity. As he lay her on the bed he fumbled and switched on a lamp that bathed her languid body with a soft light and a sensuous sheen. Despite the erotic postures into which he was able to mould her malleable torso, he was unable to sustain his own necessary bodily excitement. His cerebral activity was appropriately salacious. But the vile stench wafting from her open mouth combined with the leper look of her encrusted face and hair wasn’t conducive to love making. He momentarily detached himself from his benevolent rape. Then with trembling hand and heightened aspiration he ran a warm bath and poured in a vast assortment of his mother’s most fragrant salts. Gently he lowered in the corpse of Julianne and began its resurrection as he washed her hair and face. He found this a fascinatingly arousing labour, especially as he sponged the slippery swollen flesh of her breasts, noticing her bright pink nipples erupting into firmness beneath his tingling fingers and suds. She started to regain consciousness so he slipped out and prepared black coffee. He impatiently tried to cascade the black stream into her mouth directly from an old cracked teapot. Brown stains splashed onto the white foam of the bath, creating a giant cappuccino.

Slowly the inebriated mass passed through a metamorphosis; from a stinking heap into a wonderfully enticing bundle of stimulation. He lifted her from the frothy pond and hurried to the bedroom. “You wonderful beast, Adam,” she cooed in his ear. He hoped she wouldn’t talk, for her physical splendour was marred only by her raspish, kookaburra, voice. But then, her whisper was alluring.

“You’ve saved me, like a knight in shining armour, from a fate worse than death.” She giggled coquettishly as she slipped between the sheets, stoking higher the furnace of Adam’s lust.
He lay beside her and rolled onto his side as he removed his jockettes. Her cool delicate hands grasped his manhood. Tight; causing it to expand to the extent he was worried the flesh would rupture. The rising tide of his bodily resin could hardly be held in check. He fumbled in the darkness by the side of his bed. Frantically he sought the rubber device he had hidden in his wallet for eighteen months in the expectation of relinquishing his unwanted virginity. Julianne’s deep breathing aroused him to an almost unbearable pitch of excitement. Her hand was vibrating rapidly over her nether region, her head twisting from side to side in ecstasy. Slight groans of delight were being sighed through her deliciously open mouth. He could hear her wetness increasing in the night. In desperation Adam rushed to perform his ritualistic act with the veneer of rubber, finding to his horror his practice had been in vain as he tried to unroll it the wrong way. Then in an instant he succeeded in dressing himself correctly. He was poised for the great act. In an explosion his soul flooded in a warm trickle to fill the sheath to the brim with his premature self. Julianne noticed as Adam dejectedly lowered himself to one side. Unperturbed she escalated the playing of her own fleshy keyboard until a crescendo was reached. Adam watched in fascination.

Several hours later, in the twilight zone of consciousness, he lamented his continuing pristine state. In the distance there was a ‘ccrump’, ‘ccrump’, ‘ccrrrump’ as several car doors were petulantly closed. Horrified he realised in an instant his parents had made a catastrophic decision to return early to Adelaide. His body froze with indecision. There wasn't any time to undo the disaster spread throughout the house.

Tranquillity stifled the darkness for an eternity until the first scream sliced through the night.

“Peter,” he heard his mother wail, “Oh my God there are bodies everywhere.” Slowly the bundles of nakedness roused themselves and squinted through blood shot eyes at the bewildering picture of a dawn borne too soon. Cruel light flooded in on a week of reckless fun and exploration..........  

Peter wasn't totally surprised. When the first wafts of stale bodily interaction floated through the open front door he suspected an adolescent orgy had been unfurled. His rage boiled not from the acts he fantasised
happened, (in fact thoughts in that area were mildly stimulating). No, it was the desecration of his castle and the assault on his property. This became more evident with every step he took. In the laundry there was a mouldy concoction of the vilest sort rotting in the sinks. The living-room carpet was stained beyond repair with seas of claret. Walls had been damaged and hastily repaired. Some of the furniture looked as though it might be missing, although it was hard to tell, as it was stacked in the corners of various rooms. One flywire screen had been burst open by a body, of which he had caught a fleeting glimpse of its feet as it had disappeared head-first through the window. The dozen or so scruffs that were lying around had obviously been enjoying primitive ritualistic relationships. He looked with interest at a young girl of no more than sixteen who reluctantly removed herself from a riding position on a puzzle of limbs below. Her back was almost shredded with long grooves, gouged by prehensile fingernails. Her soft tight breasts shone in the light. His disgust was complete when he found his bed had been violated. The sheets and mattress were covered in the crusted remnants of life's liquid spilled so easily.

As he passed from room to filthy room he mustered a control he was unaware he had. Gaynor was becoming hysterical.

He left Adam's den to last. This was to be the prize. Without knocking and with a desire to make this the culmination of his mastery and experience over stupid youth, he entered the land of lust. He strode in, flooding the room with light. Adam was lying, hands behind his head with an arrogant smile splashed across his face. A nubile body of the most exquisite proportions, its curved beaming buttocks thrust to the heavens, was looking for his body honey. Her tongue was waggling with anticipation like a delightfully happy bear emptying a new found hive.

“Adam,” he droned with incredible restraint, “You and your fucking derelict companions have an hour to leave the house. I'm taking your mother for a drive to the factory. When I return, I don't want to see anybody.....including you.....you especially.....you're a parasite. When you're twenty-one, give me a call. If you're still alive I might grant you an audience.”
“Where is my beginning and end,” thought Gaynor.

She watched as Peter leered into all the halls of infamy. When he found the one he wanted to savage she stood back, yet again, to watch a new chapter in her history slide past, silently, unnoticed, unwanted and ignored.

She knew her son was still inexperienced in certain ways of life, even though her husband had forged his fantasies for years. She lingered back to her maiden days when giggling Brooks lapped at her feet and fat blackberries were plucked from bushes thick as jungles. She remembered the simplicity of pedalling a bicycle down a close, lush, country lane and her hat being knocked off by a friendly, teasing branch. The brown molten toffee masses of rivers carried her down, on carefree days, with pretty youths steering her punt. She remembered grey clouds gathering on a day of war, and staying for a millennia. She remembered worrying vaguely about death as a young woman, forcing herself to react like everybody else against Victorian morality. “I must know real love before I die,” she had thought a hundred times. She remembered Peter as a callow hero off to do battle with something totally unimaginable.
Her parents had been enchanted by this radical. He had promised so much. Her father was a renegade of dissolute aristocratic lines. Her liberal parents took kindly to a youngster who fought against paternal oppression.

They had made cautious love in her bedroom while all were out. Small pieces of throbbing flesh meeting midst a flurry of clothing. Then he had disappeared into the mysterious stained deserts of Africa, charged with battle. And he was lost.

In a single fleeting act of remote savagery her family had melted with her house; a ball of fire had been despatched from the skies.

After only eighteen years of exposure to a warm, comfortable and secure world, she roamed the streets of London with a numbed and desolate heart. Alone with the raw wounds of a love begun and cruelly stopped she struggled precariously with her emotions for long, long months. The nights were empty and cold; she was vulnerable, and delicately balanced in a tumultuous time of killing. George had arrived out of the gloom on the very day the sun began to shine again. And the rich colours of a florist's shop had caught her eye.

A woman's blood flows differently to a man's. Her essence had begun to bubble again after the eternity of mourning. She had presented herself as the soft, lost creature all men desire, all men wish to champion. But her body had already decided in the first few seconds, under the influence of the gaudy floral display, to take his warmth, weight and wetness. When they had made love that evening, forces deep inside her had been released; forces she wasn't aware could muster so much violence and energy. They were pure creative animal drives, part of the deep secret of the universe. She had given her body totally, in a sacrificial way to pure sensuality. It was not a covert, careful act, done discreetly, as with Peter. It was an unbridling, un-damming of lust. They had been totally naked, exploring in a rush every follicle, every aperture and protuberance of each other's body. Their fusion had been absolute!

And as if the universe has only a meagre supply of such explosive exploration, Peter had arrived damaged and tired.

Her joy with George could only ever have been a solitary event. To her it was as if she had tip-toed to a sheik's harem, or an Emperor's golden retreat and tried the fantastic evils of opium, just once. To rack her body with
pleasure, to know excess, would put propriety into perspective. She could then, only then, know true virtue.

As she heard Peter’s swearing soak through Adam’s bedroom door, like thick lumps of obscenity being thrown through the air, she thought of how complicated the notion of class was.

Her father had been a gentleman, yet not a tall, lean, hawk-faced aristocrat. He had been portly, short and warm, always exuding pleasantness and a beaming infectious smile. His was not the disposition of the cold, arrogant and withdrawn cynic who only won respect by what he did not say. She had learned from him to despise, ....no, reject the pompous correctness of the monied class who were clever, conservative and well-oiled. She considered their lack of creativity and spontaneity an ugly flaw. Yet the common peasant is no saint either. In the last war, and this, the promise was that class barriers were going to dissolve, creating an open society with all being equal. But wars of course bred solidarity, and solidarity is gained from accepting a chain of command, and a chain of command implies privilege of rank.

One of her reasons for following Peter to Australia had been to find the Great ‘Open’ Society. But instead she had found a Great Working Class with no idea of excellence. If you were not working class you were looked upon with disdain or disgust. Heaven help you if you stirred too much.

Peter had rapidly adjusted to this pagan land. He almost revelled in its debauching of the English language, and the incessant spitting out of sexual expletives. She had noticed the increase in the pitch of his voice. It had become shrill. Was it the violence he subjected his vocal chords to when he blasphemed so loudly at the factory, or was it the noxious, evil fumes that bubbled up from the seething cauldrons that littered his factory?

“Do you have to throw him out like that Peter?” she pleaded. “He is our only child.”

He looked around wearily, brushing into place the long strands of grey hair that grew down the back of his head like a lion’s mane. “Gaynor, the bastard has sponged off us for long enough. Christ, look at the mess he’s made here. The place is a wreck.”
She said nothing and she melted softly into the darkness wondering about the son she had raised, who was to have been her father's essence incarnate.

She was politically naïve. Both men of the household reminded her incessantly. She was not well-educated, for education in her youth was not for ladies. But there was always a thought in her mind that possibly she was not totally stupid. Her mind boiled over with many ideas that were kept locked inside. How many others, she had wondered, stored up their speculations of the workings of the heavens and the folly of man, yet never uncorked their great insights into the secrets of the universe. Because they were mute they were unnoticed, subjugated by the arrogance and insensitivity of the emptier vessels all around that rattled loudly and interminably.

The family unit to her had always been inviolate. The warm, uncomplicated upbringing she had experienced was a familiar formula. There had been no competition between mother and daughter, or father and son. Children were treated as an extension of the parent, and unrealised dreams for them would become realised through their offspring. But not so with Peter.

Increasingly it seemed he competed against all; as though everyone must be conquered, trodden on and ridiculed. Had there been sinister forces at work in his childhood that took a generation to mature and spill out? Had his father planted seeds of discontent that would pass from father to son like some ancestral curse?

All she knew was that her son's ambitions, ones that had been so strong and vital, had evaporated.....dried up over the last two years. When once he had to be chastised about his fussiness and obsessions with wearing neat, clean clothes, he now wallowed in the uniform of the unwashed. Interests in medicine and science had been lost to an unhealthy curiosity about the fringe areas of life.

"Gaynor," Peter shouted, "let's get out of this filthy mess. C'mon, we'll shoot up to the factory for an hour or so until these weirdos have disappeared."

Patiently she followed, having committed herself to the monastery of marriage and the vows of silence.
“God knows what sort of mess Larry has let the business slide into, but I hope we don't have another disaster area like home.” Peter rattled on as he threw his car around the corners, here and there causing milkmen to scuttle in panic. (They knew too well the erratic drunks of the early hours.)

“Adam can pay for the place to be cleaned up,” he declared as he slid into the factory car park, gravel raining onto the metallic walls of his temple. “The carpet is stained with a vineyard of red, the drains are blocked with spaghetti and the rest of our foodstuffs. The walls will have to be painted, and some idiot jumped through a fly wire screen.”

It was rare for Gaynor to descend upon the factory. She knew, and almost appreciated that its mysterious workings were somehow responsible for an increasingly wealthier life style. But, also she blamed the infernal machinery in its belly for the anguish in her marriage, for her bellicose husband, for her errant son. In earlier days Peter had regarded his factory in much the same way an artist does his creation, and a scientist does a well researched experiment. But now it had become a sump for all his affections, his behaviours, his ideas. It drained everything from him, and left him only as an agent for its own ghastly deeds against nature and society.

She had listened to Peter and Adam’s violent arguments in the first days of the factory. The honesty and clear sight of Adam’s youth, was knowing his father was on a dangerous precipice. But her silence had spurred Peter on, mistaking her obsequiousness for approval.

Recently her feelings and thoughts had run high with the continual insistence of Peter that his rising empire was a sign of his and Australia’s superiority. Her original optimistic reasons for moving to Australia had become increasingly questioned. A little tinge of nausea ran through her body whenever Peter began his orations. Almost predictably as they left the car and he wrestled with the rusty bolt and padlock on the entrance to his heaven he said, “This is it Gaynor. Capitalism at its best. The small businessman. The backbone of Australia. Here in this sunburnt, lucky country, we have everything. We have gold, iron, coal, uranium. You name it, we’ve got it. And we are the last bastion of the classless society where you can go from pauper to millionaire. Here a nobody can rise to the top. Education doesn't count for a lot here. What we don't need is toffee-nosed, plum-in-the-mouth, finger-up-
their-arse academics and poofers who never have to work for a living. No, if you’re willing to get your hands dirty, and sweat a bit, you can make a million.”

Reluctantly Gaynor followed him into the darkness of the factory. The pitch blackness was stifling, almost terrifying. Brilliant white fluorescent light suddenly exploded over her head, bathing everything in a cold deathly pallor. She looked at the frozen metallic monsters, suspended and lifeless. It was as though a grotesque race of subterranean giants were disturbed by light. They waited, poised until darkness returned, so they could continue their nefarious activities in invisibility.

Her eyes flickered over the machinery. Strange, blasphemous, thoughts poured through her mind.

“How marvellous is Peter really?” she mused. It seemed to her a lot of people were making money in Australia; but at what expense? Were they sacrificing their families. The quality of life, the natural countryside? How much cleverer was this new breed of men in this country than those in older, more civilised lands? Could it be that more constraints were imposed there, where life had a higher meaning? The road to wealth could be built over many values to create a highway that was fast. But how many ancient villages or entire communities had been buried, had succumbed to acts of impatience. And, perhaps, the old Europeans had learned.

“You’re really impressed aren’t you?” Peter noticed his wife slowly absorbing the surrounding scene of dirty industry.

“Oh yes,” she replied quietly aware she had been thinking deeply and worried that somehow Peter could hear her thoughts.

As he scurried around pulling up hatches and screaming oaths at absent workers she wondered just how difficult it was to make that million, if nothing else mattered. Australia she knew had been going through a ‘boom’. “Just how stupid would you have to be not to succeed?” she pondered aloud.

“What, what?” Peter yelled, “No, we won’t go home yet. Christ, we’ve only just got here.”

To flourish in bad times takes talent. She ventured this thought. Just how clever are the doyens of commerce in a country, where all that is happening is for a few people to be digging up a crock of gold left by God millions of years ago? The ‘industry’ was all buried, or copied from, or helped
along by the wogs and poofers, as Peter always called them. Just how far would this country go with a million millionaires like Peter, ripping up everything in their path like soldier ants; or worse, like looters taking the spoils of the country before anybody else can, and not really knowing what to do with them when they're all amassed.

“No,” Gaynor thought, “there is nothing of substance here.” What she was looking at was a fleeting moment in history when some shiny pebbles had been washed to the surface of a desolate land. A misty insignificant period in the existence of man. Some avaricious members of the tribe rushed and gouged them from the soil, tramping over their precious fields and knocking down the children in their way. Basket loads of these trinkets were stored in the huts of the new tribal elite. What fun their owners had each day, spilling the different coloured stones onto the floors, patting each others backs and gazing lustfully at the maidens who came hoping to capture a piece of gaudy rock. Gaynor couldn't see anything of benefit for the tribe coming from these stones. Just how well Australia would fare in a few years when the first free harvests had been gathered. She had hoped Adam, and others like him, might have been able to transmute this rich, youthful, enthusiastic continent into a generous, culture-rich province of the free world.

Again a flush of embarrassment rose to her cheeks as Peter exclaimed, “What are you doing over there, I didn't think you'd be interested in the machinery. But I guess even you can see its got a beauty of its own, a power.”

He couldn't hear her thoughts. She sighed thankfully. A long time ago she learned that in Australia domestic harmony started with a woman who didn’t think.

As they left the factory the first glimpses of another day crept over the hills and through the tops of the gums. She quietly asked herself, “Is anybody in this country really wealthy? Or are the people really just fooling themselves with their new-found gains... maybe even an idiot king or queen could run this place better.”

Peter screeched the bent, rusty bolt of the main door back into place, and swore again as he wrestled with a padlock that didn't always work. The ride home was silent, and Gaynor looked detachedly at the occasional hulk of
a stripped car left abandoned in a paddock here and there. Her eyes followed too the dance in the wind of the crumpled newspapers and the discarded bus tickets. She wondered after twenty years how pretty England was now.

“I’ll kill ’im!” Peter exploded as he looked at the devastated house. He had opened the small safe to find it as empty as a Protestant heaven. He screamed, “the little bastard has disappeared with about five hundred pounds.” He snatched at a tattered piece of paper with a message scrawled all over it. His hands trembled as he read. A stabbing pain in his chest warned him to reduce the pressure so he sat to take the full onslaught:

“Two hundred pounds for house minding services. Say, two hundred and fifty pounds compensation for mental cruelty. Forty nine pounds fine for deprecation of my sexual morality. One pound for the twenty-first birthday you would have given me in a couple of year’s time. I think we must be square now,

See you in hell, Adam.

PS. Sorry mum!”

“Ohhh .....shit!” was Peter's concluding remark as he stepped into the bathroom and slammed the door shut.

Gaynor started the long process of cleaning the house by trying to lift the plugs in the laundry sinks with a long piece of wire. After failing many times, with her stomach retching, she plunged her rubber-gloved hands into the rancid quagmire, pulled out the plugs, and then helped the thick chunks on their way with proddings from a distended coat hanger.

**Gaynor and George**

The long arduous drive to Queensland had been lengthened by Peter’s continual monologue in which he endlessly extolled his great accomplishments and to a lesser degree those of other princes of Australian commerce. It was Gaynor’s folly when she remarked upon the similarity of parts of the countryside around Mount Gambier to that of England. Peter began a tirade against his disinheritied homeland that tore great chunks of beauty from the
soft rolling countryside of Surrey, and threw it into the cold Atlantic.

“It depends upon what you mean by beauty,” her husband drawled. “What I mean by beauty is the raw-red openness of the sand-blasted rubble strewn across the middle of Australia, when its painted indigo and purple by a perfect dusk. Its the endless ribbon of coastline that is thrashed for all eternity by mountains of ocean cascading onto the edge of the Nullabor. Its the raging bushfire racing across the scrubland in one of God's purges, trees exploding in its fiery path. Its the blanket of black stumps a year or two later, bursting forth, green with new life. That's what beauty is to me.

“What is ‘pretty’ I suppose is the manicured hedges, lawns and flowerbeds of the aristocracy. A symbol, all of it, of when labour was so cheap the rich could get hundreds of unlucky slobs to sit around all day grooming every blade of grass in England. Did you know Gaynor, there is not a part of England that is wild! Every bit of it has been under the plough at some time or other.”

Gaynor continued looking out of the car window as soft mellow, rich scenes of rolling green pastures and leafy streams slipped past. The rising chauvinism in Peter was becoming more evident day by day. But one dream she would never let disintegrate under the pressure of his desire to blend like a kookaburra was that of hedgerows and castles, white fluffy sheep and bubbling brooks, rich tapestries of autumn trees, and the civility of a cultured, mature country. It didn't matter to her that the wilderness had been taken over and farmed. There were plenty of other countries that were full of wilderness. If that was the price to pay for civilisation ‘they’ could keep the change. The ancient buildings that reflected two millennia of human aspiration, and despair; all the myths and legends that whispered in the breezes; all these things were sacred.

One vague thought which percolated through to her consciousness was a frustration born of a fleeting insight into Australia's far away future.

She was content to admire the grand buildings and gardens of England and Europe, free of any acquisitive desire. The appreciation of that beauty was probably similar to Peter's of a ‘natural’ Australia. But she didn't need to ‘own’ the beauty. She wondered at those who scorned the aristocracy and the fine monuments they left. Would not these new backyard ‘ocker’ industrialists,
who now acquiesce with a swimming pool and barbecue area desire even more as the years pass. Who was to say that in two, three, or four generations, after raping the soil of Australia, after extracting its treasures, that the suburban houses will not have grown to castles; and the red sands watered and planted will not be covered with manicured gardens. No she thought, what England had achieved was a level of excellence in some facets of man's life on this planet. That excellence would be universal and timeless, and as people came closer to it, they would learn to love it. Throughout man's future he would rediscover such excellence in different lands and at different times. It was just a pity that the rationalisations of those who hadn't reached such levels had to be suffered. Such shallow hypocrisy.

Gaynor felt delightfully refreshed after her reverie. She noticed how her little piece of beauty had changed back into pumpkin coloured soil and low formless bush. Peter had been droning on and on, but her life had been recharged for the moment by a peek into the essence of his being.

When they had arrived at George's house there had been a debacle. Peter had not anticipated the limit of his brother's tolerance with respect to his incessant ravings on the virtues of money, hard work, and especially the small businessman. George also had been demonstrating a particularly protective stance toward Gaynor. For two evenings in a row they had sat chatting about 'old times', a dangerous thing she had thought; better that skeleton remain locked in their closets. As always Peter retired early when the umbilical to the factory was severed.

Softly George asked, “Why did you do it Gay? Come to Australia. I mean, .....with Peter?”

Gaynor gazed into the flood of darkness that was feebly restrained by the soft glow of the verandah light.

“Peter needed me, and I, him. We were orphans alone after the war. He was so full of energy and enthusiasm. He wanted to begin again, building in the sun, irradiating himself, getting rid of the dampness of Europe's old age. He was so inspired then. My commitment was to follow, and make a family. But we stopped at Adam.” She continued to stare at the void that threatened to swallow the weatherboard house precariously perched on stilts under a mantle of dense tropical growth.
“After Adam was born,” she began slowly, “he has never made love to me again. Its as though the act of childbirth was something dirty; as though the baby defiled sacred areas. It didn't worry me at first because I didn't feel very amorous for months; and he didn't push. The months turned into years until one day with a shock I realised how far we had grown apart.”

“George, I looked into a mirror about ten years ago and realised how vulnerable I was becoming as every second dripped away. My face was becoming hardened to the rigours of the Australian sun, my figure was thickening with the soft life. My hair and skin, and voice even, were coarser. The prettiness I once had; the beauty I was lucky enough to have bestowed upon me, all this was fading. But worse, these few assets I had were being lost without enjoyment first. I would be alone I knew, very soon.... It was a decade ago I had those thoughts, and gradually the vision has become true. I have lost a country, nearly a husband, and soon I think, my only child.”

She paused and looked at George directly. “I sometimes ask myself what I have done. Should I have stayed where fairytales are made, and at least been part of the larger family of my heritage. The impatience of my youth has thrust me into some kind of cowboy film adventure in the ‘badlands’; it seems like a film that will never end. My hope of graceful old age surrounded by a loving family evaporates a little more with each scorching summer.

“Look at me carefully George...” She grasped his hands. “Feel this alligator hide.” She rubbed his surprisingly soft hands over her chasmed face. George flinched inside but let his fingers slide over the roughness to the softer, moister felt of her neck.

“Haven't things changed,” she challenged. She looked cautiously around ensuring Peter was still asleep and unzipped the front of her loosely fitting dress all the way to the waist. With a delicate, ballet-like movement she stood up from the cane chair in which she had been languishing and stooped forward, dropping her large breasts into George's face. George reacted to this sensuous smothering by wrapping both of his arms around her, feeling her buttocks beneath the dress and pulling her to him as he remained seated. Gaynor lifted his arms slightly and let her dress fall completely to the wooden floor.
She stood, an ageing face in the shadows, with a sensuous body pouting towards a man whose sexual essence had been suddenly thrown back decades. He slid her tight black briefs down, continually stroking her back, and pushing his face into her breasts, licking and moving his head down, further and further. A warm liquid was already dampening the side of his face. “Oh God George,” Gaynor moaned, “why did you never marry?”

With the unexpected shrillness of a pterodactyl cry, a voice mutilated the soft darkness with a staccato laugh.

“Ahah,... Ahah,... Ahah,... Oh this is fucking great. This is so fucking rich.... My brother the commie wanker, and poor little mouse, Gaynor. Ohhh shit, what a beauty. You have got to be kidding!!!” Peter’s voice boomed out of his white spectre-body as it floated in the darkness of the doorway.

George leaned back in his chair as Gaynor crouched trying to find her briefs, and grasping her dress in front of her.

“What the hell are you trying to hide from me for, Gay? Have you become modest in your old age.... Jesus, don’t you think you’re a bit past all of this? Oh Christ, you look so funny.... Look, carry on.... We live in a free world. I’m going back to bed to dream of something that at least excites me. But, then again Gay, from this point of view, watching you being eaten by my brother is quite arousing.”

George raised himself out of the chair, “Piss off Peter, you cretin,” he hissed.

“Of course, of course, anything to oblige.” He disappeared into the gloom. “Keep up the good work Gay, you never know what sort of gold-mine you could be sitting on.”

“Oh the bastard,” Gaynor sobbed. She walked away from the light of the verandah and crumpled to the lawn, still naked. George slid out of the light too and quietly moved to console her. As his hand touched her flesh in the abyss of night his blood boiled and rich carnal visions swept before his eyes. He succumbed and entered her time after time until she reached a muffled crescendo of ecstasy that echoed up from her past. The moisture of love, lawn and lust mingled there in the tropical darkness.

In the cool crisp reality of morning George purged himself to Peter, describing in the most innocuous way how he had made love to Gaynor during
the war. He strove to emphasise the innocence of it all, and the coincidence too. But Peter looked bored.

"It's good to give the old horse a new lease on life. Good work George. Well done." he cried.

The relentless miles of wet, shiny trails of highway gleaming in the sun, worked their way slowly under the bonnet of the car as Gaynor sat in silence on the way back to Adelaide. Finally, in the South Australian dry lands, for miles the rusty hills and parched grass seemed to be suspended on either side of her. Even the garrulous laughs of the kookaburras seemed stretched out in time. The record of life had been slowed down to a boring, endless drone.

She brooded on her losses of the past; and now all those of the future. Her insouciance on the steps of George's jungle hideaway, an ageing weatherboard cottage straddling on stunted stilts with slithering things crawling beneath it, was an emotional miscalculation. She was now committed to what was left of her family. To become part of Peter's factory of life she would have to respond like a machine whenever he felt the inclination to turn a switch and start her upon some unintelligible chore: This in his grand tainted scheme for a world in which everything was covered with a silt of coagulated oil and dust. Her hopes for a dynasty in this ochred land had been flushed away with the hot juices she had secreted for George.

The course of Gaynor's life was now immutable. Without Peter she hadn't an anchor in a sea, which to her, was largely uncharted. Without Peter she would flounder and sink, living, decaying and dying in isolation, devoid of even material comforts. George's touch had told her that his rekindled animal force was still as fire but his life had insufficient room for the weight of one whose lost assets were becoming an increasing burden. Every day her pores coarsened, her lines deepened. The dull aura of age, the lack-lustre of lost lust placed an ugly film over her forgotten portrait of youth.

Gaynor's days after Adam disappeared, leaving his stained path behind him, turned to diversion. Peter gave her increasing amounts of money and would occasionally leave parcels of 'sexy underwear' on her bed. When she poured out the contents of these mysterious packages her curiosity was aroused at the complicated extent to which designers would go to leave particular parts of the female body uncovered. One evening she was confused
by a large lump that was wrapped in sheer black stockings. Her heart pounded as a large model of a penis with the texture of real flesh fell to the floor. It was as though she had dismembered somebody, and her frame trembled. As she picked up the instrument a slight shiver of excitement passed down her spine, but the straps that flapped at the back of the tool snapped her into the awareness of Peter's desire to perpetrate some act of perversion. Her mind flickered over the events of the past weeks until she remembered a love shop, or ‘sex’ shop she thought they called it, had opened in Hindley Street a short time ago. She had never walked down Hindley Street. She couldn’t muster that kind of courage. Although she had driven down this dubious street with Peter on a couple of occasions. She noticed the very unsavoury types loitering on the corners. A lot of them seemed to be Greek or Italian. And they were the ones who not only hung out but probably owned the sinister coffee bars and milk bars. Adam, she hoped, never went to these sorts of places. She had also heard rumours about ‘sly grog shops’. This is where you had meals and you could buy wine with your meal. Or even a vodka or something like that. You had to pay for the extra. And you had to be careful she was told. The police knew all about it. There was nothing really impressive about Hindley Street at all. In fact it was sleazy. Not the sort of sleazy she had seen in London around Kings Cross or the West End. Different sort of sleazy. A monotonous sleazy. Shop after shop until you started to get close to West Terrace. Then there were a lot of three story or even higher grey buildings. And then eventually you got to the big brewery at the end of Hindley Street. Very fitting she thought. A brewery on Hindley Street. No Hindley Street was certainly not the place that one should be seen.

She put the thing carefully aside, as though handling a precious piece of art, and wondered at her husband's motives. Even though he was making a financial commitment to the arts of sensuality, he never once presented himself as an artist.

Evening meals had become infrequent affairs as Peter normally had a snack at the factory. Breakfast became the meal of the day and one of the few instances when she actually spoke.

“Gaynor, why don’t you see more of Australia, of the world for that matter?” Peter looked up from a fatty feast of bacon and eggs with a ragged
pyramid of fried bread. “I know I hardly spend any time at home, but I have to build up the business, you know. Look why don’t you take one of those new expeditions into the bush up around Ayers Rock?” He paused to chew on a piece of stringy bacon. “It’ll do you good to get out and meet some people too. All you do is sit around the house all day on your fat arse.”

Gaynor nodded silently. “Perhaps I will” she replied.

Her first trip inland was very agreeable. During the long hot days that formed the preamble to the ‘Rock’, she sat in solitude and silence reflecting on the virtues of the old country that maintains a monarchy and its links with aristocracy. “There is nothing wrong with pomp and ceremony, it provides colour and pageantry, and history most of all.” She mumbled this to herself.

Her neighbour, a scrawny woman, with a raspish voice and who smoked incessantly, croaked out a “What?”

“Oh nothing, really,” said Gaynor, “I was merely talking to myself.”
She became aware that her speech was a little more enunciated than usual, her voice a little loftier.

“Oh Jeez, are you a pom, or somin’?,” the frazzled lady interrogated.
“Not a whingeing one I hope?”
“What do you mean?” Gaynor queried, making out she didn't understand.

“You know, pommies are always whingeing about somin’. Its too hot, too expensive, too dirty, too rough, ‘Not like home’,,” she mimicked her version of an upper class accent.

“I often think of England,” said Gaynor, “the rolling green hills, the clean white sheep, the castles, the villages, the beautiful little brooks and streams.”

“Aw c’mon,” she goaded, “its always miserable and wet, and everybody lives in little boxes all joined together like a train of dunnies. You live so close together you’ve always got colds and everybody is poor.”

“Not quite.” Gaynor was beginning to understand the rules of the game and was hesitant to proceed too much further lest she start the type of argument a ‘foreigner’ can only lose. “The trouble is,” she continued, determined to unleash one thunderbolt, “you only really ever get the peasants over here. All the good ones stay at home and enjoy a reasonable standard of culture.”
She had half hoped this barb would unsettle her sweaty companion but instead her words fell harmlessly upon a soft request.

“What's ya name then love? Mine's Lisa.”

“Gaynor,” she replied, “How ya goin’?”

**Adam**

Adam had entered his new dissolute state with a fury born of a nuclear metamorphosis. His mind was full of colour and dreams, flickering images and wild prophetic visions. The crimson catharsis of fire, the cleansing holocaust, the purging of the world's wicked met him at every corner. At an exhibition he delicately ran his fingers over a clotted canvas that depicted the raining sun and the burnt cities with a mushroom cloud of expurgation rising silently over the crackling horizon. How he admired that artist who captured the essence of his soul and the destiny of man.

He lay sometimes for days in a damp dark crumbling flat shared with a few friends. He would shut the door of the room he used and prostrate himself on the crinkled mattress which straddled the cracks and crusty pieces of linoleum on the floor. Carefully he would block out the daylight so he could lengthen his visions brought bubbling forth after days of chewing slimming tablets. It was curious. The longer he deprived himself of proper sleep, the stronger the dreams, until he could merely close his eyes and clear scenes would come rushing in. His favourite vision started with lumpy cumulus clouds sculpting themselves in the inverted pond of an azure sky. The rich vault of heaven would flow into the bluest of tropical seas, hardly a ripple of wind or water anywhere. Softly his body would sink into warm sand and serenity, the sun basting his balsamed body. Such was the tranquillity his mind would float effortlessly, coasting on a gradient of well being, wafting in space like the leaves of the palms that danced in a breeze. An electric thrill of fear with a deeper, new, undefined feeling would pour into his spread-eagled frame as fountains of flame from the other side of the horizon ascended to the sun. Great red mushrooms would be silhouetted along the shoulder of the sea and Adam would know armageddon was here. Emotions aroused by visions of his own death were as nothing compared to the knowledge that would flow
through his stomach from the low rumbling ground immediately beneath him. He was being flooded with that once-in-an-eternity revelation when, wondrously, one of a species is privy to its own special extinction.

Adam would withdraw from his window to the future, arise from his fetid mattress, now awash with sweat and stumble to the bathroom. Shivering with the fever of a demented mystic he would cleanse himself under the soft caring waters of the shower. Ritalin and dampness would remove his manhood. So on these occasions he would vainly massage his crotch with warm soap lathered in an attempt to rediscover it.

Adam's existence for a while had become one full of ominous threats. He found himself hiding from all but his closest compatriots in his new ‘liberation of the soul’ by chemical means. This was particularly true during the winter months. When the summer months blossomed he looked at himself in the mirror and wondered where the plumpness of his lost school days had gone. A tanned, glossy, fleshy and full self had been transformed to something that sagged and was wizened. Sickly white skin and sores were his panoply. He looked at his friends, and invited them outside.

“Jeff,” he said, looking at the hunched cadaverous form heating baked beans with unhealthy looking mould iced on top. “Come outside a minute will you?” The scarecrow dressed in a tattered gown and sandals turned slowly from the ancient, grease encrusted gas stove.

“What for?” he croaked, the frailty of his existence trembling through his voice.

“There’s something I must show you. Wait, I'll get the others.” Adam creaked down the dark and musty corridor, and offered the same invitation to three dishevelled corpses smoking in a huddle. They sat around a naked, dripping candle perched upon an ancient mound of wax that looked like a stalagmite in some ghostly grotto.

“Oh man, you must be joking,” one of the flickering figures sighed.

Unperturbed Adam forced himself out of the back door, into the long grass that once was a lawn. He was momentarily blinded by the late spring radiance and shielded his eyes.

“Aaah,” he sighed, as he felt healing rays bathe his delicate pores. “Why have I abused you, oh sun,” he chanted. Slowly and with a rhythmic,
half dancing motion, he removed his clothes until he stood stark-naked between the tall stalks of healthy, lush weeds. He constructed a makeshift bed by trampling down a thicker patch of the vegetation and let himself fall slowly into a sprawled heap, gulping in the salubrious rays that burned away months of self destruction. He surveyed his sallow skin and measured his sapling ankles and wrists with a macabre curiosity.

“Oh how quickly can be undone what takes a life time to do,” he cried. “What a travesty I have perpetrated with my life of late.” He sang this to the back door of the disintegrating flat he had just stepped from. Not a sound came from the slit of black that cleaved the gleam of white reflected from the back wall. No one acknowledged this latest revelation.

“I might well be surrounded by moral, intellectual and emotional pygmies. But I won't let the tribe win. Its time for a resurgence of the values that only the inner me really knows.” His clarion calls continued unnoticed and Adam fell into a deep sleep.....

Gaynor was excited Adam had decided to take a course at Teachers' College. She had seen him a week ago when he had come to pick up some old furniture and carpet for his new flat. That was the second time in nine months they had met. The first time he had looked terrible. The apparition that had presented itself at the back door reminded her of the photographs just after the war ended when the Allies had gone into the concentration camps. The only redeeming feature had been his sun-burnt skin, which too had been ugly as it was flaking off in large pieces like wood shavings; but at least he had a ruddy colour! Last week he looked much better. All the sagging skin had been pumped up again with firm flesh below it.

She knew that alcohol had played a large part, but she didn't care. Youth, she decided, had a great capacity to saturate itself with gallons of beer, yet sustained little damage in the process. The babies in France and Belgium were fed with this elixir during the war years when milk was scarce? Yes, she thought, in some respects ale was positively health giving! To be a teacher, whilst not the pinnacle of professionalism like a doctor or lawyer, was quite acceptable. She had hurried to tell her few friends of Adam's ascendance from the dubious existence he had wallowed in for the last year or so.
“Ah yes,” Gaynor confided to one of her many geriatric friends on a long bus tour, “my son spent a year experimenting with life. You know, a lot of kids do that these days. It’s a bit like the olden days when the sons of the wealthy would spend a year touring the continent.”

“Same sort of thing, of course,” her wary companions would add supportively. Gaynor had taken to talking to the elderly a lot recently. People of her own age group were a threat. They demanded too much. But the older ones, well, they understood things.

Gaynor was particularly excited now. On her last sojourn to the outback she had been able to capture the attention of the whole bus, relating stories of her husband’s new found wealth, her marvellous house and swimming pool, and her son who was doing rather well at university. Towards the end of the tour through the desolation and bull-dust, she invited them all, most generously, to a party where they could see for themselves the great things she proclaimed.

Large globules of sticky rain seemed to hang in the sultry night sky for an instant before clattering on the roof. They would then join small rivulets to pour down the dust covered grooves before bubbling into a brown foam at the gutters. The guests were arriving in dribs and drabs, their skirts and dresses stained with a mixture of perspiration and the sun god’s night tears.

Gaynor was ecstatic. Although Peter only stayed for a few minutes, she was glad he was able to excuse himself with a, “Sorry folks, I have some important business to attend to at the factory. I would like to show you around my little enterprise but we have some big projects on at present. I'll see you all later.”

Gaynor shrugged at her swelling retinue and smiled, “Well, goodbye dear.” She feigned a kiss on his cheek, and he whispered sibilantly, “Oh fuck, what a crop of boring old farts.”

“He works so hard,” she said, as he disappeared out of the house.

Adam became more drunkenly conspicuous as the evening drew on, and Gaynor was embarrassed when she drew close to him picking up snippets of conversation. She was equally unsure about his female acquaintance who had dark Mediterranean features. Her hair was long and black, cascading in thick springs over her shoulders and half way down her back. The thin veneer
of a veil that was supposed to be a dress clung provocatively to her ample breasts and hips. Thin lines from her exceptionally brief pants were clearly visible through the diaphanous shadow she wore. Her nipples thrust themselves through the silken material and taunted older women with the firm bra-less grapefruit of flesh from which they protruded. Gaynor decided this instrument of sensuality had to be a whore and for hours dedicated herself to drawing away the men who would be lured like insects to this venus fly trap.

The men were a sorry lot. Grey wizened men without the paunch of excess or success. White shirts and ties instead of open necked floral shirts. Their sleeves rolled up. They wore baggy dark trousers that probably belonged to the bottom part of a suit. Belt loops were either too large for the belts or too low on the trousers. The tops of the trousers draped over the belts exposing the white underlining. They looked earnest, serious men, retired and belonging to women who had found fierce independence and control over their husbands in later life. Adam first despised them and then felt sorry for them.

“Gentlemen, a toast,” Adam cried, “to Albert Nam.... Namijara. Raise your glasses, drain....”

Adam lifted his large stein and threw a quarter of a gallon of bubble and foam down into his protruding stomach.

“Mother, why are these gentlemen drawing their ale from Vegemite jars? Break out the steins!” Adam roared these heroic drinking words like a Teutonic war-lord. “The ones you bought at the Schutzenfest.”

“Well men,” he continued, “let us break into skolling teams, and play the sport of the thirsty.”

Gaynor quivered slightly as Adam's booming words floated over the rising noise of the party. Her male guests, drawn into his circle, said very little. They seemed to accept his demonic leadership in the drunken game he was trying to play.

“At University you know, we have a game where all good drinkers prove their stuff.” He cleared a table by carefully folding the four corners of a table cloth and gently lifting the package of drinking glasses to deposit it on top of an oven. As the silent club of thirsty men looked on, the Mediterranean nymph handed out large steins she had found in a cupboard and pushed them towards chairs lined up by Adam, on both sides of the table.
Adam busied himself collecting an assortment of chairs from around the house. Four were placed on either side of the table.

“Gents, if you will kindly take a seat.” He gestured to the others who had gathered, indicating they should sit.

“We are going to omit one important part from this great tradition, and that is the pies. Normally the object of this game is to have each person skol one large beer, followed by the devouring of a delicious pie. This is done in relay, repeating the process three times as fast as possible. The team who finishes first, wins.” He paused for effect. “We will leave out the pies as my mother is in love with this shag-pile carpet.” He pointed to his feet, blowing a kiss to the imaginary polar bear sprawled at his feet. “All right gentlemen, are your steins charged?” Briskly and sensuously, his dark feline accomplice skittered from stein to stein, topping them up with frothy lager.

“Place your hands face down on your knees. Place your chins on the table edge. Remember, the captain starts when I give the word. Each member begins when his partner's empty glass hits the table. Are you ready team? ..mmmm....... Face the watah.... Row.” He snapped out the last word with the precision of someone commanding a firing squad........

Gaynor watched with trepidation as Adam continued his drunken assault upon her guests. She cringed as her son broached more sensitive areas of discussion. The flurry of activity at the opposite end of the room served, she hoped, as a diversion from his rantings which were increasing in volume. As she clinked glasses over the bar, and passed around pretzels, keeping up a constant barrage of party banter, strains of Adam's embarrassing ravings reached her ears.

“Australia is really a land of affluent peasants, you know,” he gurgled through his foam to Mr Wilson, a retired, wealthy undertaker. “The trouble is that affluent peasants don't princes make. But a king without a throne or kingdom is still a king. We are a land searching for an identity,” he cried as he grasped his sultry Mediterranean mistress and slid his hand up the back of her dress.

“No, we are now a world looking for an identity,” he carefully corrected himself, waving his stein around imperiously. “Think of our descendants a hundred years from now... if there are any. They will look back at the long hair
and flowers, the colourful clothes, and they will be totally confused..... and that'll be their own fault......."

Gaynor occasionally tried to catch Adam’s bloodshot rolling eyes but to no avail. The notion of her son’s rising propriety as a school teacher was being drowned with each mouthful of foam he consumed. The elusive myth of dynasty was going to fly away again. The social debacle ended when Adam stood his full-breasted paramour upon a table and began to auction her, like a lusty Greek slave-girl at a Roman bazaar. His vendor bid was not challenged.

By the time Peter arrived home, the guests had left, whispering soft apologies to a mortified Gaynor on their way out. Her inebriated son and friend were rolling around half-naked on the lawn. The moonlight flashed out of the rolling clouds every now and then to reveal a pearly buttock or breast, reflecting the silver light like a stepping stone on a river of black.

Gaynor later lay on her bed and could hear Peter struggle with Adam trying to pour him into a car. She could hear violent crashes and swearing. When her husband finally entered the bedroom he was panting and sweating profusely.

“That little bastard just kicked the side of my car and pulled all the wires out from under the dashboard,” he hissed angrily. “Jesus, if I never see him again, it'll be too soon.”

“I think I agree,” Gaynor echoed, feeling guilty at the thought of disowning her only offspring, but carefully considering the prospects of social isolation for the rest of her life.
CHAPTER THREE

Lunar Landing

Prophet

It was a peculiar dream. There was the ‘boom boom boom’. Then rising crescendos of banshee-like sitars. A poetic tumble of light and music and words. Adam sees fleeting caves of ice; deep, enticing places, pitch black inside. But he can not see into them. Strange visions. What is concealed in these vaults of darkness? Fleeting kangaroos of chrome appear, their muscular metallic torsos bounding in blinding light. A cacophony of colours that condense into a billowing crimson mushroom. The mushroom distends and is transmuted into the awesome flaming cloud of a Saturn booster rocket at ignition. Adam sits outside the rocket, invulnerable.

Adam is reeling with joy as he steers this fiery mount towards the huge silver orb of the moon. He streaks towards the moon’s surface and as he does a huge yellow ‘happy face’ smiles, beckoning him to its surface. This smile yawns into a vast cavity of dark consumption. He is to be eaten. He is digested in the abyss of space. His life molecules will be smashed and spread like putrid waste to settle somewhere in the cosmos, to defile something clean and pre-eminent.

He awoke to screams of delight “Armstrong’s done it. He’s on the moon.” “Come on Teforp. Get up. You’re not still pissed are ya!. Christ you
can wack it back." Adam struggled back to sobriety and sanity. "Where am I," he mumbled.

“You’re in a fuckin’ doss-house near Nowood Parade where you have drunk more than your share of wine, eaten everybody’s pills and flaked as usual. You’ve missed the landing on the moon and the fact that your dead hero John Kennedy has been proven right.”

Adam lifted his head from the lounge on which he had collapsed, peered around and located the voice. It was John. He was looking as messianic as usual. Long beard and long flowing hair. His Christ-like appearance was rudely punctuated by the bald crown of his head. He knew that John was shopping around for a toupe to overcome this small inadequacy in his otherwise Jesus-like, strutting demeanour.

“Fuck it.” Adam said “I haven’t spoken to my father in the last few years but I always knew this was going to happen. Kennedy’s death made sure it would happen. I hope he chokes on his scotch and soda tonight.” Without looking at the others clustered around John he rambled on “Even after the Cuban crisis my father couldn’t believe Kennedy wasn’t a communist. He seemed to be pretty happy with the notion that some right-wing bastards in the US killed him. He’s such a prick.”

He looked beyond John at the TV set and watched the American flag being planted on the moon’s surface. No wind. No flutter. Nobody was taking any notice of him. All eyes were fastened on the television screen.

John was looking serenely at the television set too, but both his right and his left hand were stroking the flower braided hair of two young blondes at his side. Their eyes drifted from the screen and looked dreamily at John. Adam felt nauseous and wasn’t sure whether it was John’s corny guru games that did it, or whether it was the aftermath of his chemical intake.

“1969” he thought. “I’ve nearly finished Teachers College and I have to hang around with this grandiose reprobate.”

Admittedly John had some talent as a musician. He could play the guitar and the piano very well. So his messianic presence was not without some justification. Adam had literally touched his toga on one occasion and had received a little shock. “My God. This guy really has it.” Adam reflected upon this experience for weeks afterwards to convince himself sufficiently
that the shock he got was a weird concoction of expectation, the effects of mixed amphetamines and alcohol, and his own suggestibility at the end of one of John’s self-enhancing banter.

“We are the baby boomers on the edge of self destruction,” John had cried aloud at one of the many parties held in Norwood. “We are the baby boomers. But we are on the brink of destruction. Now we are ruggedly individualistic. But we will become united. We will become strong teams sometime in the future. We will be the masters of the universe by the end of the century. Blah, blah, blah.”

But his stuff was so over the top Adam knew that John was potentially suicidal and sooner or later he would crack up. At one party John had crushed a wine glass in his hand. Very heroic he thought. He splattered blood all over the place and cut a few tendons on his precious piano playing fingers. Once John had established that everybody felt sufficiently sorry for him he settled down again. Evidently he had got angry because somebody at the party was getting more adoring looks from the young blonde ‘nymphs’, as he called them, than he was.

Adam got off the lounge and started to walk towards the kitchen to find himself some sort of liquid. Water, cordial, beer. It didn’t really matter. He felt like he was dying of dehydration. He found a cracked and stained coffee cup and filled it with water from the corrosion-blackened tap. It was difficult threading the cup through the maze of rubbish that filled the kitchen sink. By the time he had manoeuvred the spilling cup back through the rubbish half of the liquid was gone. He gulped it down. He repeated the process again trying to quench his thirst. Adam then tried two or three other bedrooms which always doubled as lounge rooms for a place of solitude. His own room had been invaded by party revellers. Stained and tumbled mattresses on the floor. Posters of Che Guvera and Mao Tse Tung plastering the walls. But tonight belonged to Neil Armstrong. The bedrooms emptied. Everybody crowded around John looking at the television set. And Armstrong deserved it. Adam lay down on one of the double mattresses and listened to the television commentary drifting down the passageway. “A place of some sanity tonight” he thought. “Tonight will begin something grand. Something on a colossal scale. Perhaps when Vietnam is over it will all be over. There
will be a concerted thrusting of the human psyche into space, abandoning the reckless introspection that causes global paranoia. The world will unite and have a peaceful future. But what hope have we really. We are all damaged. We are the children of the second World War, our parents are totally scarred. Those returning from Vietnam are worse."

“Adam, what are you mumbling about” the call came from the doorway. It was Mary-Anne. She wasn’t one of John’s harem, as he called them. She was even less accessible. She belonged to Tim the drummer.

“Where’s Tim?” Adam asked, hoping the hopeless thought.

“Oh he’s got a gig tonight. But what’s your problem. I heard you mumbling to yourself while everybody else was looking at the conquest of the moon.” Adam almost drooled over the sexy way she spoke. He answered “I’m just lamenting where I fit into the scheme of things. Where everybody fits into the scheme of things. There is a glimmer of hope I suppose. But not much.”

“What’s there to be so down about.” She seemed to plead. Adam liked that

“Well I was just thinking. I listen to a lot of people around here and agree with some of what they say. Half the group that stay at this place are vegetarians. I’m not. They are always saying things like ‘you don’t have to kill to live’. They go on about unconscious maliciousness; the unconscious aggression we have if we are not vegetarians. I sometimes think back to my childhood. I think a lot of the guys I hung out with were sadists. Sadists when it came to animals. I suppose they didn’t have the opportunity to do it to fellow humans. Anyway I remember this one guy, he was a friend of my father’s. I can’t remember how old I was. Probably eight or nine. He was out in the bush somewhere. He had a shotgun. We went into a thickly wooded area. He was showing off his shotgun. He shot all these parrots, one after the other. There were feathers and guts and blood everywhere. I couldn’t stand it. I don’t think I have ever killed an animal in my life. I remember another guy……..”

“Oh your not going to tell me another one of those disgusting stories are you. Boys are so awful.” Mary-Anne interrupted.
“Not me. This guy just loved finding bird’s nests and cracking open the nests. Particularly finding eggs where the birds were nearly hatched. You can actually see the tiny little birds shape. He would open the eggs up picking away the shell. He’d look at the baby bird and then squash it with his foot. It just splattered everywhere.”

“Stop it Adam. You are so graphic. So awful. Can’t you talk about something more uplifting.”

“Oh you mean like John, and baby boomer power.” Adam replied.

“Well at least that’s progressive and constructive. Its not slobbering over the past.”

“Have you seen the graph he draws.” said Adam

“What graph.” queried Mary-Anne

“The one he draws of baby boomers. He says it demonstrates how to be a millionaire at each segment of development of the baby boomer. This started in the late nineteen forties and goes right up until the next century.”

“What do you mean” said Mary-Anne. “Give me an example.”

“Well he reckons that at the end of the war when the baby boomers arrived Nestle made an enormous amount of money out of milk food products for babies. So did those people who made nappies. Then it went onto the people who made baby toys. Then in the fifties and towards the sixties it was the people who made the jeans and records and films. All aimed at the baby boomers. John reckons that you can follow the baby boomer bulge throughout history. Right now he says we are going to be the next source of wealth for real estate agents. We are in our early twenties and will probably start getting mortgages shortly to buy houses and land.” Adam paused.

“And there’s another cycle after that. They say that after the real estate boom then there will be those who create the superannuation funds. When the baby boomers are in their fifties they will get powerful and strong. Perhaps people will start eating a lot healthier and taking care of themselves more. Anyway that’s what John suggests. Finally he reckons the last lot of millionaires will be the funeral parlour operators. He reckons when the baby boomers move into their seventies, I guess that’s going to be about twenty-twenty, they’ll all become wealthy as the baby boomers die.” Adam paused and then continued.
“He sounds a bit like a prophet doesn’t he Mary-Anne.”

“That is” Mary-Anne said, “quite extraordinary. What does that make you Adam?”

“I am very ordinary Mary-Anne.”

“And how do you know you are very ordinary” asked Mary-Anne with a well sculptured questioning look on her face. She hesitated and then said before Adam could answer, “I tell you what. I have a favour to ask you. I want to go and pick up some plants that somebody has been minding for me. Can you give me a hand? Nothing much else is happening.”

Adam looked around. She was gorgeous.

“Well do you have the wheels,” he asked

“My car is just around the corner.”

“Ok let’s go. You’re right. There’s nothing happening here.”

Adam went on his bizarre little mission. Mary-Anne took him to one of the back streets of North Adelaide and asked him to follow her as they climbed over a wall and proceeded to pull marijuana plants out of a series of pots.

“How are we going to carry all of these?” Adam whispered. There was an intense air of intrigue. Although no-one seemed to be around.

“SShh” whispered Mary-Anne. She undid the belt around her jeans and slipped them off. She tied a knot at each end of the jeans and began stuffing the marijuana into both legs.

“A great bit of enterprise” said Adam and he looked longingly at her legs. Mary-Anne noticed. In a tumble they dived into her open and rather stylish MG. She threw the jeans into the back. Adam took the steering wheel and raced into the night.

Mary-Anne didn’t live far away, only a few streets from the scene of their larceny. Without too much convincing Adam settled into bed with her and relished every moment of his love making, making sure he left well before Tim’s anticipated arrival.

He was able to get back to the party while it was still going. It was a little nosier than when he left. No-one seemed to have noticed his disappearance for three or four hours. However many of the younger ladies had left. John was still holding a strong court. He rambled on about the power of humanity
and how for humans to live a full life they have to live from an ego state to a state of universal awareness. Adam slid in and tried to make sense of the monologue.

“In our minds, in our essence we need to move from individual ego to family and then from family to group. And when I say group I mean an important group such as a work group or a social group (like we have here). Then you must learn to move on from those groups to even larger collections of groups like communities and then onto a nation and world. But you have to be able to do all these things simultaneously and be aware of the importance of each component.

It’s like being an architect designing a house. There is always a higher order. The bricklayer, the plumber, the carpet layer, they never seem to be aware of the higher order of the house design. For that matter not even the builder does. The higher order of the house is usually only shared by the architect and the owner of the house who is going to live there and has the dream that he gives to the architect to interpret.” John drew breath.

Adam couldn’t help himself. He had to interrupt.

“What do you mean by all that crap John? Where does the individual fit in?”

“Oh-ho Adam you’re awake again. What a nice surprise. Adam what I am trying to say is this. We have to be simultaneously aware of all the important components of life. But it’s normal for most people to only be aware of one component at a time. The bricklayer is only aware of the bricks as he lays them for the whole house. The plumber is only concerned with the pipes and taps and all those sorts of things that plumbers play with. Most individuals are concerned specifically with their families or community group or maybe they only indulge in their ego. Very few of them see the big picture and the interrelation between all the components. Don’t you agree.”

Adam paused and then replied, “Based on my experiences, especially with my family I would suggest in some instances it’s not a bad idea to leave some of the components out. For example family.”

John quickly replied “Do that and it’s like leaving out the foundation. The house will fall down. The whole vision of the house won’t be realised if any component is left out of it Adam.”
Adam had had enough. “Thanks for the enlightenment John” he said sarcastically. He left the room and wandered through the narrow passageways looking for something a little more energising. It was nearly dawn but the amphetamines and enthusiasm of youth were keeping the party going. The constant turn over of people was a great help as well. New blood was constantly pumped in. He went from bedroom to bedroom. Finally he went out the back door to the overgrown garden where several stolen park benches were scattered in a circle. A small fire was smouldering on a rough brick platform. Adam noticed that there was a considerable number of beer bottles still floating amongst the small icebergs in a huge old brass tub somebody had placed near the fire. He leaned over and grabbed one. Someone passed him a bottle opener.

“Here you are Adam. One of these days it would be nice if you brought a couple of dozen beers around too.”

“That I’ll do friend. That I’ll do friend. Next week I get paid.” lied Adam

Fabian

Adam looked at the group. Three or four people he had not seen before were moving two of the benches to a darker area in the garden. It was terribly overgrown for the time of year. It could have had snakes in it. He didn’t know the group by sight but by their clothing he guessed they were homosexual. Three were slightly built but obviously fit. And well tanned. They finished moving the bench and sat down on it, looking expectantly at the side gate that led to an alley way.

Adam sat down on a bench some distance from them and not visible to them. The gate creaked open and to his surprise a lean and well dressed guest entered. To his surprise it was his next door neighbour Fabian. Adam noticed the adoration with which Fabian was received. It wasn’t an actual fan fair but it was close to it. The three young men who had been waiting gave intimate kisses on the lips to Fabian. Adam wasn’t concerned about that, rather he was amused as he had not been exposed before to the patomime that surrounds the entry of one of their most respected members. He had heard of these things, though. At his parties it was normal to capitalise on the
women's liberation movement. Lots of free love so long as you involved the feminists in your discussions.

Fabian quickly moved into a monologue. Adam was impressed and even envious. Everybody seemed to have the art of the monologue like John. It was something he would like to emulate but just didn't seem to have the experience in life to enable him to talk for half an hour or so without repeating himself.

And on Fabian proceeded.

"Its the accountants, the lawyers and the politicians who are the anti-life. The accountants have some sort of convergent approach to life, no creativity, no life, no dreams. Just checking to see if everything is financially feasible. Lawyers are just the same. The only difference is they are verbally convergent not numerically convergent. They pour everything into verbal logic without consideration for emotional areas. And then of course there are the politicians. These are the transients of life. They have no commitment, no goals, no spirit, no focus and no youth. These are all the anti-life. They can’t see that integration is the key word in life. The integration of all the components that make up life. Perhaps the engineer is really the only one who can do this on a professional basis. The engineer understands the component parts, say, when building a bridge. He understands the stresses and strains. He understands all the individual parts fit together to make up the coherent entity that has a higher order purpose than any of the individual parts. The world unfortunately acts on a piece-meal basis through the politicians and the accountants and the lawyers. There seems to be no unifying dream. All individual parts working against each other. Perhaps the world would be a better place if it were governed by engineers. Have a look around you."

Adam noticed how Fabian used the sweep of the arms to help add grandiosity to his speech. His arms swept towards the others on the outer seats including himself. Yes youth.

“What is this great baby boomer generation doing to help us. They are acting purely on individual self. Fornicate. Protest everyday against a war I don’t even understand. Take pills. Drink beer and occasionally study. Componentry. Not unification. They’ve lost the dream, or at least haven’t
found it yet. Who said that the world will end with a whimper instead of a bang?’

Adam felt it was necessary to intervene. He moved up from his dark seclusion and approached Fabian.

“Hey Fabian, its Adam here. How ya going?”

“Oh hi Adam. I didn’t expect to see you at this party.”

“Fabian, just been listening to your speech. Impressive stuff. But I heard one similar half an hour ago. I’ve got to admit its from a different end of the spectrum.”

“I don’t understand what you mean by the other end of the spectrum. But you shouldn’t be surprised. You hear lots of people speaking the same sort of stuff these days ” said Fabian.

“At any one time in anyone’s life there’s usually many people thinking the same sorts of things. Same concepts. I guess that reflects something of human groups and human thought. Perhaps there is an unconscious unity. The problem is we don’t seem able to achieve conscious unity. No Adam, I’m not at all concerned that people are saying the same sort of things as I am. Yes, it should make my argument more convincing and persuasive.”

Adam didn’t want to be drawn into anything but he retorted. “Well Jung had something to say about the collective unconscious. We all share the same sorts of dreams, that sort of stuff. I guess you’re right though. Its the human conscious state that isn’t sharing very much. That’s the problem I guess. We are all a bit like those sparks flying out from that fire over there when somebody throws something onto it. Central heat and unity but when provoked by anything at all the little sparks shoot off by themselves and then die in the night. Um that’s my contribution Fabian, at five o’clock in the morning.”

Fabian looked at him. “I haven’t seen you for at least six months. You’re never around at your parent’s house anymore. I’ll catch up with you in a minute and have a beer.”

Adam grunted an ‘ahuh’, and sauntered back to his bench in the dark. Fabian’s monologue went on but it bypassed Adam as he drifted into reverie.

Fabian had arrived in Adam’s neighbourhood when Adam was only five or six. It was in the distant backward horizon of Adam’s life, when his father
bought their first timber framed house in the working class area of Hectorville. He didn’t know how old Fabian was but he was much bigger than him. He was old enough to know that his mother liked him a lot and spent a lot of time with him. She was obviously very impressed by the clear and precise way he spoke. No Australian accent. He was also an artist. He could paint very well. In fact he ended up painting an aboriginal mural in his parents living room. When Adam was ten things became even more exciting. Fabian first of all bought a small motor scooter then a small sports car. The sports car was a boy’s dream made real.

By the time Adam was fifteen, Fabian was working as a window dresser for David Jones. This was the prestige shop in Adelaide’s main street. They had the best clothes. The very best items of houseware. Always the best stereo systems, binoculars and telescopes and other exciting things. And Fabian was always dressed the best. His suits were exquisite and hung on him perfectly. He kept himself very fit. And by sun tanning even in winter on sunny Adelaide days, he kept a brown complexion year round. He looked good. He was generous too. He made Adam the best dressed fifteen year old at his private school. Fabian was one of those people who didn’t wear a suit for more than three or four weeks. He never threw them out. He always gave them to Adam and they fitted. Fabian was the first at everything. Just recently he had hair transplants just like Frank Sinatra. Adam remembered that Fabian started receiving them at a very young age. He must have only been around twenty-five. Even now he wasn’t much over his thirtyes but he had heard he also had some sort of face lift. He had something done to his eyes. Perhaps it was removing some bags or something. He wasn’t sure. Anyway he didn’t know for a fact that Fabian was queer. Although his father had mentioned it lots of times especially when he was jealous of his mother spending time with him. Anyway he didn’t care that much. But now it was absolutely obvious that he was queer. That he was a homo. When he looked back on it Fabian’s best friend Roland, who actually worked as a slaughterman in an abattoir, was one of the best looking guys he had ever seen. He had starlooks like George Maharis on Route 66 on TV. Dark hair, just the right length to be considered cool. He always had a tan too. And plenty of muscles. Not like Hercules or the muscles on the muscle guy that
always advertised showing people kicking sand in his face when he was a kid. No just the right amount of muscle to make him look good. And the guys on Route 66 didn’t seem to be homosexual. But perhaps they were. He never really thought about it. Anyway, so Fabian was queer. So what!

Adam’s reverie was rudely interrupted. He noticed that Fabian had slipped away and the monologue stopped. He suddenly heard a slap. This was definitely the sound of flesh on flesh. There was a crashing and bashing in the small shed at the end of the garden. He noticed now, in the morning light, two of the pretty people were standing outside of the shed looking in the doorway. Fabian walked out wiping his knuckle, and started screaming.

“And don’t give me that bullshit lisping stuff. Keep your fuckin ‘brathen huthy fakeneths’ to yourself. You can be as queer as you like but don’t come with that mincing poof stuff to me.”

Fabian pushed his way passed two of his colleagues and started walking directly towards Adam. He noticed Adam, grabbed him by the shoulder as he walked past and steered him towards what was left of the fire. There was nobody there now. There was still a few beers in cold water. All the ice had melted. Fabian bent down grabbed two of the bottles and passed one to Adam.

“Have a breakfast beer with me. Have I shocked you Adam? Didn’t you know I was queer? Don’t think because we’re queer we’re passive. That stupid bastard deserved a smack on the mouth and he got it. I can’t stand those silly bitches”. Fabian smiled at him.

“You really do have good legs Adam”. He teased. Adam was the only person who had been wearing shorts. When Mary-Anne had been looking for something to put the marijuana in, shorts were no good. Her jeans were.

Adam looked at Fabian. “I really don’t care about your sexuality Fabian. It must bug you how people go on about poofter jokes. Especially the ones about Don Dunstan and him wearing pink shorts.”

Fabian interrupted, “Don’t worry about our political leader Don. He’s not really queer. Not yet anyway. Probably later on. He’s happily married. He’s just outrageous. He writes poetry and cook books. Very talented person and has a bit of class. Anyway what about yourself Adam. You don’t seem very happy. Your always getting drunk.”
Adam thought for a moment. “Well I’m getting pretty bored. Life just seems to be flat. After four years at university and Teachers College I’m still hanging around with the same protestors and popping pills and drinking beer, fucking most of the same women. Its all pretty boring. My life seems to consist of going to university everyday and checking out which is the best demonstration against Vietnam to go on. That’s usually judged on how good looking the women are in the group and whether they are truly liberated or not. It makes a good day’s outing with a few beers afterwards. At the parties it’d be the same protestors, the same routines. I think it must be to do with what my English tutor calls me, ‘solipsistic’. I just think of myself all the time. But I’ve got to get out of that. There has to be something that I can strive for. I need some sort of adventure in my life. I think I’m going to have to get out of Adelaide sooner or later. Preferably sooner. Time is starting to run out.”

“Go on,” coached Fabian

“The list goes on. Its not just the protests and the pills and the beer. I’ve had no shortages in my sex life. There are a couple of sisters I’ve been hanging out with. One’s a doctor or nearly a doctor and one’s a physicist. They are very smart ex-convent girls. But they like sharing their bed with me a lot and one of them is really bizarre. We developed this fairly unusual game of billiards where she lays naked on the table. I guess you can figure out the rest. Her idea of fellatio is pretty absurd too. She’s always ranting about swallowing millions of little geniuses. I like being surrounded by sexual bizarreness. At first I thought it was me exploiting them but I think its the other way round. They seem to be driving the sexual revolution. Perhaps I’m becoming queer Fabian.”

“Not very likely Adam, not very likely. You’re just not built for it. But you’re right. Perhaps its time for a change. Getting outside of yourself Adam. I don’t know if I can help but I certainly can let you in on the secrets that I have been playing with.”

“Tell me about it.” requested Adam in a respectful tone, as he leaned back on one of the benches near the fire. He threw a small log onto the coals. It sputtered into life immediately. Flames flicked and licked the side of the log. Its light competed well with the morning glow.
Fabian settled back too. He removed the top of his beer with an opener that somebody had left. He threw the bottle opener to Adam. Fabian took a long and thirsty drink from the bottle and lent back “Only in Australia would we do this. Beer for breakfast. Anyway its all about self development and self enlightenment Adam. I’ve been playing around with a bit of writing. I have put together what I call a self development book. I don’t think too many people have done the same sort of thing. Although there’s a couple of guys in America, Dale Cornegie and others who seem to be on the way. But my book really is about teaching people how to integrate themselves, how to build a plan for their future and how to win this battle we call life. Its all about life. Its about family, community, nation and even thinking what I call ‘globally’.”

Adam noticed Fabian’s eyes light up momentarily when he used the word ‘globally’. Its like he had found a new way of expressing a fairly old word. He seemed truly excited about it.

“Its in draft form and ready to go. There’s a bit of psychology in it, although I’m not a psychologist. I also like to think that there’s some literary merit. Although that’s not the intent. Its really there to help people plan their lives so they can make a constructive contribution to this weird thing we call humanity. We are only on the planet for a brief time. We act as individuals although we are part of a greater whole. Now even those people who are religious still act as individuals. Religions that fight amongst themselves are acting as components. They are not acting in the way they should to bring about a universal wholeness. When two different religions talk about God, there are two interpretations from their point of view one is correct and one is not. Actually they are probably both wrong.”

“Are you suggesting that I might benefit from this approach.” Adam asked Fabian.

“I don’t think it would do you any harm,” Fabian replied. I’m prepared to let you have a look at the manuscript.

“Well tell me more about it and I’ll probably give it a read” Adam replied.

Fabian replied “No there’s not a lot more to say. You heard me when I was talking to my friends an hour or so ago. You said you heard it all before. I guess I’m not surprised. No, have a look at it, read it and let me know what you think.”
Adam had enough respect for Fabian that he was prepared to spend a bit of time on it.

“I’ll read the manuscript,” he said

“There is only one copy. I typed it out myself and it took hours. Well actually more than hours it took weeks. You’ll notice there’s a few mistakes in it. I’m very happy for you to point those out to me. Eventually I’ll take it to a publisher and see what we can do. I’ve got a lot of faith in it. I think it will start a trend. I can see sometime in the future, people, especially youth, you baby boomers, will really start taking yourselves and possibly the whole world more seriously. You’ll find things like diet and health and exercise, all those things are really important. The notion of self development for the greater good will become more popular. I think there will be a time in the next twenty or thirty years where lots of these sorts of books will start appearing. I’d like to be one of the first. Especially one of the first in Australia. Come around to my place this evening and I’ll give you the manuscript.”

“Why are you so concerned with all this stuff Fabian.”

“One day, along time into the future, we will look back at the disaster we now call civilisation and wonder how people could have tolerated the inhumanity of wars, disgusting contrasts of wealth and poverty, the way in which people manipulate each other. We would be horrified that people lived like this. That fellow humans could have allowed that of each other. Like human slavery, only worse. Yes the human race will survive. Possibly thrive. But not until we stop behaving like selfish locusts devouring every resource on the planet for short term individual gain. If we as a race evolve it will not be through survival of the individual fittest at the expense of others. It can’t. Evolution of today’s political and legal systems on a compassionate basis matched by enlightened thought on economic laws – new laws that transcend market forces of supplier and demand are necessary. Ah Adam. All in good time. Maybe twenty years. Maybe a hundred years. More likely a thousand. Possibly ten thousand.

“Where do you fit?” asked Adam.

“Me. History like evolution only rewards success. Ah thousands if not millions of others, ones who have ideas, will be forgotten. Wrong place wrong time.”
With those words Fabian drained the remainder of the small bottle of beer. That was a feat that even Adam had trouble competing with especially this time in the morning.

Fabian got up.

“You do know where I live don’t you.”

“Well, actually no.” said Adam

“Oh Roland and I live not very far from here. It’s a lovely old house that we’ve decorated. Come around and have a look at it.”

He took out a slim golden pen from his top pocket. An immaculate pen to go with the immaculate dress, thought Adam. He picked up an empty cigarette packet off the ground and tore it open. He scribbled an address and passed it to Adam.

“I’ll see you around six.” he said.

Adam poked the piece of cardboard into the back pocket of his shorts.

“I’ll see you around six,” said Adam.

Adam decided he needed some solitude so he took his battered vehicle and drove it down to the sand hills at Semaphore. He parked his car, grabbed a towel and picked a quiet and secluded spot where he could both sleep and sunbake at the same time. Fabian’s tan had inspired him. He took a swig of Coca Cola and settled back and slept for the rest of the day on the warm sand of one of Adelaide’s best clear blue and white beaches.

That evening he headed back through North Adelaide. He stopped at O’Connell Street to grab one of his favourite take-away foods. The delicious shaslik. Something Mediterranean about it, although he had no idea about cuisine. A lightly toasted bread roll, with lots of fried onion and chunks of fried meat. Delicious. He devoured his meal with gusto at a small table with a rickety chair that slipped around on the lino floor. He poured down Coca Cola and headed for Fabian’s place.

Fabian’s house was one of those turn-of-the-century places. Federation style they called it. The garden was beautiful. He knocked on the door. Fabian answered, dressed in shorts, leather sandals and a canary yellow t-shirt.

“Come inside and look around. Have a beer if you like.”

“No more beer today” said Adam. “I’ve had my share.”
Adam had a quick look around the house. It was as immaculate as he had expected it to be. Fabian had fastidiously selected the furniture that was antique and looked original. Adam was very impressed.

“Here we are my man.” said Fabian. He plunked a large bundle of well weathered white paper, bound with large rubber bands, into Adam’s hands.

“You’d better scoot before Roland comes back. He’ll get jealous, especially if he sees your legs,” Fabian joked.

Adam got into his car and drove back to his apartment. He stumbled through the open front door. Nobody bothered to lock doors these days. There was nothing worth stealing. He strolled into his bedroom and placed the manuscript carefully by the side of his bed.
It was two weeks later and Adam still hadn’t got around to reading the manuscript. He felt a pang of guilt. The guilt intensified as time went by. He kept on resolving to read it. He hadn’t heard from Fabian so there was no pressure. The final challenge for reading the manuscript arrived early one morning.

**Bang, crash, bang.** Adam was torn out of his early morning slumber. He stumbled towards the front door to open it to whichever psychopath was trying to break it down. He flung open the door and there stood his father.

“What the hell do you want?”, demanded Adam. His father hadn’t even had a chance to open his mouth. Adam was still half asleep.

“You’re a silly prick Adam. You don’t even have a telephone. No one can contact you so I thought I might let you know your poofter mate is dead and so is his poofter mate; they’re both dead.”

Adam was horrified. Full consciousness broke over him.

“Are you awake you wanka. Do you want to hear the full story.”

His father was wearing a skin tight mauve coloured shirt. The top button was undone. With the collar open he still sported a floral tie that was a hideous mix of colours. He wore brown suede shoes and brown trousers.
“What happened?” Adam asked.

“Well there’s no note. It seems as though they both went up to Morialta Falls, went to a quiet part of the camping area and found a nice strong branch. One hung himself and then so did the other. No notes. Nothing. It’s been a couple of days, but nobody could find you. There doesn’t seem to be anything suspicious. That’s the trouble with these woolly woofta’s. They’re all mentally unstable. There were no drugs. That surprised everybody. There were no slit wrists. That also surprised everybody! Seems as though your mate Fabian had tried that a couple of times before.”

“He was a very sensitive person.” said Adam.

“Yeah sensitivity gets you a long way”, was his father’s answer. “Poets and poofers. Their all alike.”

“Thanks for your sensitivity dad,” Adam said sarcastically.

“Anyway I just thought I would tell you the news. Nothing else to report. The factory is going fine.”

“That’s of no interest to me” said Adam. “I might see you around some time.”

He tried to close the door in his father’s face, but the suede shoe blocked the door “your such an ignorant shit sometimes Adam. You want to wake up to the fact there is a real world out there. The factory, that you despise so much, is part of that real world. Have you ever considered that little light engineering factory that I have designed, created and brought into this world might be worthy of something. Just for your information I have added a completely new plastics factory? Its costing a mint but it will make two mints.”

“I am really not very interested,” said Adam, still pushing against the door trying to eject his father who had managed to squeeze a little further inside. Neither were using their full strength.

“Oh come on Adam what the fuck do you know about anything. This is a whole new area. You know that I am making a lot more components for Holdens now, do you? I am producing parts for dashboards, air lever handles and all that sort of thing.”
“You really don’t understand do you Peter (Adam deliberately avoided saying Father or Dad). I am not, I am really not, I repeat not, interested in your hair brained schemes.”

“Well I am into blow moulding and injection moulding. This is really new, hot stuff. We import the granulated plastic, its melted in the machines and then injected into moulds in many different shapes. But what the hell. What would you care. Worry about your poofter mates. I have given you the news.”

With that Peter took his weight off the door and removed the shoe. The door slammed shut. Adam locked the door and looked out the window watching his father strut back to a new American car. This time Adam had no idea what make it was.

Adam knew about the Morialta Falls area. He visited it quite a lot as a kid. He’d pass by it on many occasions and hung out in the creeks catching frogs and doing other boyish things. It was on the outskirts of Adelaide and not hard to reach, but still quite remote. There were several falls. He thought three but he’d only climbed up two. Fabian would have selected this place for its seclusion. But he couldn’t understand why he had chosen this way out at all. Perhaps there were many things about his relationships he didn’t know about. However this final desperate act of Fabian’s drove him to reading the manuscript.

Carefully he picked up the pile of papers that were sitting by the side of his bed and unslid the rubber bands. Two of the elastic bands broke as he stretched them to take them off. The bands had obviously been in place for some time as the rubber had perished in parts.

The manuscript was typed and blotchy, obviously done by an amateur. Some words had been typed over where there were mistakes. But in general, as he flicked through the pages, he could see it wasn’t a bad attempt.

He returned to the front page and began to read. He noticed a few words scribbled in pencil on the top right margin. He tried to decipher the writing. With difficulty he made out the words social engineering – Lee Kwan Yu. His eyes fell upon the title page and he read ‘Winning Life’. Adam’s thoughts turned to gambling, which he knew Fabian disapproved of. But he
realised quickly he had been misled by the title as he read further. ‘A word from the author’ gave him the clue. He plunged into the manuscript.

This book is very much an experiment in what I call ‘participative literature’. As well as being an experiment its intended this book will form a framework for any individual drafting a winning game plan for the exploitation of the greatest asset they have - their life. The book is for them to help themselves.

The greatest, and probably the most influential piece of participatory literature the world has seen is the Bible. If we look at this work objectively we see that essentially it was made up of a series of topics, all of which had or have social significance. Then a series of people, not necessarily prominent at the time, wrote down their ideas, contributing to the maintaining of the various social themes throughout that book. In fact it was Constantine, three hundred years after Christ, who had the idea of this participant book when he decided to unite pagan concepts into a new Christian Rome. I don't in any way lay claim to expertise in understanding the message of the Bible, nor its construction. However I do believe I understand the power of the influence it has achieved, primarily through participation in its preparation, rather than being the result of one individual writing the entire contents. For that reason, when I have completed drafting this book, I will ask a group of people to read the draft several times. The first time to see whether the issues being addressed are crucial enough for inclusion in this book, which primarily is to assist the individual in fully realising the potential of his or her life, and then to add their thoughts and views to those notions.

The participating group will be more than an editorial panel. It will consist of people who are able to make significant contributions from philosophical, academic, social, or experiential points of view. The people I plan to use involved in this ‘participatory’ project are; a psychologist in private practice; the managing director of a publishing company; a plumber; a marketing executive of a national bank; a power broker and political lobbyist; a mathematician; a member of parliament and entrepreneur; a fireman, a church council member; a secretary; and a builder. These people have already been contacted and have accepted to do the reviews. And now the book.
Introduction: life is a winnable game.

The zeitgeist is variously described as being the ‘spirit of the times’ or the ‘predominant psychological force’ existing at any one time in a culture or society. The zeitgeist is therefore constructed of many people, holding similar values and thinking similar thoughts in a particular era. Certainly the spirit of the times now at the end of the sixties is the psyche that is manifested, hundreds of millions, or even billions of times through the baby boomer ‘personality’. Its exuberant youth!

They could be poised on the edge of the destruction of the world. Ultimate cataclysmic warfare is not impossible. Alternatively we could be poised on the brink of a new society brought about by the baby boomer’s experiment with love and peace.

Now, in the sixties the time is near for the baby boomers, now old enough to be a real force in politics and society, to make a statement; to leave a signature.

So the real questions to be asked relates to whether this group (which inevitably will influence the rest of the world and many generations to come) will become a narrow, increasingly isolated group? Will this isolation be reflected in the individual, the family, the community and the nation, in dysfunctional ways? Or will this group, through its education, be more culturally sensitive than predecessors, absorbing new ideas from other people, groups, and nations? Will this group continue to pursue its course of immediate gratification or will it learn through new interpersonal techniques the ability to empathise with other’s needs?

Will this immediate gratification lead to rampant crime, or will the ability to empathise lead to true social responsibility? Will there be the unpleasant manifestations of unbridled over-population in the future; or will there be responsibility born of forward planning with prophetic scenarios of humane and fair international resource sharing?

Will this group perpetuate a secular state based on its own selfishness or will there be a new spiritual awakening and an awareness of where the individual fits into a relationship with other people, with other cultures, with other nations, and ultimately with the concept of the universe itself?
All these questions are important with respect to the individual when he/she views life and what to make of it. From the individuals point of view there is only one shot at life. Should we not grasp that one shot and make the very best of it, wherever we possibly can? We must remember too that different individuals will perceive the same factors with different eyes. Where one sees opportunity the other will see threat.

The pages ahead will look at life optimistically but the book will not be ‘a motivator’. This book is not about ‘psyching people up’ but instead being ‘realistically optimistic’ with a plan to win.

The techniques and rules I have developed are intended to be adopted by the individual to capitalise on the assets he or she has to produce a winning ‘end game for life’.

You will succeed.

Fabian Endright

Rule #1: See the big picture

The one fundamental question, as soon as we are capable of thought, is, what is being alive all about? This question leads onto others like, what is the meaning of the universe? Why am I here? I suspect these sort of questions are asked at quite an early age, and quite frequently. But for those who may be perceived to be in a position to answer, they find it easier to ignore answering them, or to avoid them. This starts a negative attitude towards posing such questions, either inwardly or outwardly, for the rest of life.

However, these questions should pervade one's existence all through life. If you, the reader, are not asking these types of questions you had better ask yourself ‘why not’.

Adam had just completed the rigours of his eighth birthday party. Well it hadn’t really been a party. A couple of his friends had been invited over. They had blown out the candles on the birthday cake, thrown some of the small pasties, pies and sausage rolls around the place, spattered tomato sauce on the walls and made mother mad. He’d only got into a little bit of trouble that evening with his father. But Adam had been thinking that day.
Dad what’s at the end of the universe? Can we keep on going forever or is there a brick wall there? And if there’s a brick wall what’s on the other side of it? And how will we ever know what is on the other side?

Peter’s reply was short and sharp. There is no brick wall. There is no end to the universe. You shouldn’t think so much Adam. These things are not worth thinking about. Just get on with life. Its the lazy pricks in life who worry about that sort of bullshit. You just focus on your schoolwork.

Adam knew when to shut up. He wasn’t getting anywhere with this one. But he kept thinking about it anyway.

The cynical reader is going to ask “how on earth can you start a book called ‘Winning Life’ by asking such a complex question. Well perhaps the question is not so complex. Perhaps neither is the answer. The important thing is to ask the question!

The reason ‘why’ will start positioning yourself in the universe and to start positioning yourself with respect to all other humans whether its on a national basis, on a community basis, on a family basis, or as an individual.

To many ‘faith’ or a certain belief system is an acceptable and sufficient reason for being. Faith in being ‘at one’ with the universe or being a component or a cog in a God-led universe, might give some people a personal insight as to why the person exists. But to others ‘faith’ is not sufficient. There is a need to question further. Whatever your, the reader’s, answers are to the questions above they should be acceptable, so long as its as honest as you can possibly be. And you can change your answer as you travel through life and learn new things.

Rule #2: Have a cosmology

To assist you in coming to grips with this, if you are not a person who wishes to accept ‘belief’ as the ultimate positioning statement in your universe and need to question things a little more, you need to develop a ‘cosmology’. Cosmology is all to do with studying the origins of the universe. There are many interesting theories around, none of which of course have been proven
outright. With cosmologies you have two alternatives. You can invent one of your own or you can use somebody else's. Using somebody else's is a matter of selection. However, its far more satisfying to develop your own or think you are developing your own. (In all probability whatever cosmology you think of, or invent yourself, its quite likely to have been thought of somewhere by somebody in the last several thousand years anyway.) Nevertheless its important that your cosmology expands out to include several concepts if its going to work for you.

You could be asking yourself a slightly different question ‘what is the individuals role in life?’ Is it merely to propagate our species? Is it to transmit culture? Is it to enhance culture? What is the future of man? Is it static? Is it cyclic? Is it regressive? Is it cataclysmic? Is it a form of evolution leading to a higher order? This might help shape a cosmology.

My personal cosmology consists of several parts, and it might be useful to you the reader, if I run through it.

First there is creation of the universe. You might say it just ‘occurred’. That is not a very satisfying answer from my point of view. Alternatively you might accept it was created by a super-being or a god. Unfortunately if you can not accept ‘faith’ per se it merely raises another question; where did the super-being come from? My idea is very eclectic borrowing from several cosmologies. It essentially goes something like this.

The universe, or at least the one I am conscious of, consists of a cycle of gigantic primordial explosions. The last one, that is the beginning of this universe, occurred more than ten billion years ago (according to scientists). That large explosion has been expanding or continuing throughout the universe all that time. As it has expanded various elements have formed and through time various chemical reactions have occurred. Through this various compounds have appeared and finally, like rust, life has evolved on a multitude of planets.

Expansion is still continuing and will continue to do so for many more billions of years. At some point the expansion will start to slow down and for many more billions of years it will gradually collapse. At some point far into the future, perhaps hundreds of billions of years into the future, life will have ceased (as we know it) and the whole of the universe will have condensed into
a small amount of matter that has an almost infinite amount of mass. This will then condense to a critical point where it will explode again in another primordial blast and then start the whole process again. So for the infinity of time there is a constant expansion and contraction of the universe, with a constant destruction and regeneration of the universe.

There were a few occasions where Peter had been forced to go to church. And they were usually when it was a wedding or a christening. Although he did notice christenings were not so popular now as they had been in England. And someone had hastened one day to encourage him to ‘have moderation in everything he did’. Peter had thought about that. He had even considered that one day perhaps many years into the future things would ‘run out’. But that was all the more reason Peter said to himself and to anyone who was listening, to consume now. Consume hard. Everything is going to run out sooner or later. Air, water, iron ore, food you name it. So what’s the point in delaying it. You were born now. Consume now. That’s your obligation.

Adam had been there at the time and had said “Dad you’re a bit like a locust.”

The next component of my personal cosmology is ‘cause’. Its all very well to talk about big bangs and recurrent big bangs throughout the infinity of time but people normally ask the question ‘why’. In my cosmology, life and technology are an integral part of the structure of the universe. As I said before there is an evolution of elements, chemicals, compounds and then life itself as the universe expands over the millennia. This life at any particular point in time is at a certain state of evolution. Its never constant; its never static. So over millions and over billions of years life will evolve into incredibly complex levels. To my way of thinking life does not stop at the point of man achieving intelligence. It keeps on continuing and continuing until it reaches the realms of what we might consider ‘godliness’. And of course at any point in the universe life has a myriad ways in which it can evolve.

But one constant at least I believe exists throughout all of the universe and throughout all time and of course throughout all re-formulations of the universe after each expansion and contraction. Its this. As a consequence of evolution of life there will be a clash between technology of war and the
philosophy of peace. That is, the hard-core technical aspects of civilisation and its evolution will be in conflict with the social and moral evolution that goes hand in hand with such industrial or technical evolution. (This could apply to any planet on which life is evolving; not just Earth.)

At various points through the evolution of a species or a particular intellect, that particular species or intelligence form will cease to exist when war-technology out-strips philosophy of peace. For example this planet could well have ceased to exist, or could still do in the future, through nuclear war or its equivalent. In much superior races whole solar systems, whole galaxies could explode on the same sort of basis where technology out-strips moral or philosophical evolution.

In the event that an intelligent life form has a morality which can out-strip technology and not be destroyed by a whole galaxy exploding into a nova or super nova, this level of being or higher-order being would be confronted by only one prospect of demise. This of course would be the inevitable contraction back to a point of nothingness in the universe prior to the next cosmic explosion. However in my cosmology it could very well be that this higher order intelligence could ultimately either control that contraction and explosion or alternatively dissociate itself from it. This latter concept has implications for the notion of ‘God’. Which brings to mind another constant. The notion of existence of the universe is inextricably linked to life, evolution and intelligence. They all go together.

Within my cosmology this is as much as I need to formulate. From my own point of view, for me to work within the universe that exists around me, I am comfortable. As I pick up additional bits of information, or if my ideas develop or evolve in their own right, I might change my mind, based on this new information. But generally, to ask unanswerable questions beyond this is a waste of time. I’m moving into areas beyond my ability to conceptualise.

**Rule #3: Define morality**

The important thing for me is that morality is not subordinate to any notion of a higher order being, whether it be defined as a god or anything else. Morality is defined on this planet, by the societies that exist here, at this point
in time. This of course puts responsibility on us, the members of our societies, to make morality work. We cannot abdicate responsibility to ‘higher beings’. So for me existence on this planet is very important and my (and hopefully your) interaction with life one way or the other is vital for survival.

My cosmology, whilst it gives me a starting point in my understanding of life, is no more than a perspective within which I find myself within the universe. What it does do of course is allow me to be objective in the formulation of my moral code; my ethics for living. These do not have to be entrenched in some formalised or ritualised aspect of understanding of some higher order being. (Although I do consider the probability of existence of higher order beings to ourselves being high anyway.)

From the readers point of view, your cosmology might not wish to be as separatist as mine. That is, you might want to incorporate concepts of morality into some form of higher order being. Alternatively your cosmology might not even need a concept of a higher order being. But whatever the case, your interaction with life on this planet has to be of consequence, one way or the other. That interaction has a base point, and that base point is you.

As she crunched on the apple, gnawing her way right down to the core, detachedly considering the impending arrival of her husband, she lay naked as Peter licked honey from her nipples and naval. She concocted the occasional spasm and twitched her legs like a fresh dead rabbit. This was to ensure that Peter didn’t get bored; or at least as bored as she was.

“Screw or be screwed puffed Peter. Dominate or be dominated. If you are going to do something wicked do it, do it well and do it so you get away with it. If you don’t get away with it then suffer the consequences.” He bit her nipple until she squealed. He stopped before it became an overt act of sadism.

Rule #4: Have a concept of time

You are, momentarily, a creative component in this universe. You have input into this universe whether you perceive it as profound, subtle or indifferent. Although many scientists have said that time is a constant value,
most of us have experienced time as a very subjective issue. Think of those occasions when minutes have dragged on and felt like hours and when hours have flashed by and felt like minutes.

From ‘your’ point of view, how long do you think you will be in this universe or on its playing field? Is it momentary or is it infinite? If you take an external perspective and ask the question, “how long does a mountain or a planet exist”, your existence might seem very brief. But you can take a perspective that really counts. Time, especially in the context of your life will then seem infinite. Ask the question “do you remember what it was like not to be alive?”

Perhaps you think this is a fatuous question, but think again? There are no reference points. How long do you feel as though you have been alive? The answer without reference to external points must be ‘infinity’.

Why do we even ask this question? Well this is a positive first step in understanding your significance in the universe. This perspective is very healthy and positive because it gives an individual his/her signature in the cosmos; and allows him or her to escape the ‘tyranny of time’.

At the moment you ask the question, “how long have I been alive” from a subjective point of view and the answer is ‘infinity’ you are then going to ask yourself “how long will it be that I remain alive?” Perhaps you can see this is an infinity too.

There is one small problem... We have been given notions of ‘now’, ‘before’ and ‘after’. ‘Now’ will always have the quality of ‘duration’ of time. The past, in your memory also has an essence of ‘duration’ but you cannot change the past. The future, with respect to yourself has a notion of duration as well, and you can certainly do things now to shape the future to at least a minimal degree. So ‘now’ is the area you can have most impact. And that is where we should focus our attention.

Its regrettable that many aspects of our life are fouled with the notion of having to rectify past actions. On most occasions these past actions have nothing to do with our present lives. Unfortunately dwelling on them can be the cause of many military, social and personal conflicts, that can extend back years, decades, centuries or even millennia. So why is it we spend so much time concentrating on those negative aspects, already gone?
It was a good arrangement that Peter had with the motel operator. It was an out of the way place. There was a pool but he never used it. The rooms were actually luxuriously appointed for a motel. His favourite had a four poster bed with a mirror on the underside of the canopy. He enjoyed looking at himself usually over the shoulder of she who was astride him.

“You’d know I’ve got a bad heart. If ever things get really bad. If I look like I am going to flake on you. Just get out of here. Take your clothes, get dressed and clear off. But as you go out just let them know that I am still here.”

“Oh Peter you are so silly. That’s sexy. You like living on the edge. Don’t you have anything for your heart.”

“I carry the pills around with me everywhere. But who knows when my time might come.”

Peter nestled back onto the pillow. He didn’t know when his time was going to come. All he knew was that this was a hell of a lot better than sitting on top of a tank breathing in thick diesel fumes, hearing men screaming, firing the Browning machine gun every now and again so he felt like he was doing-something for the war effort. Panting in the hot desert sun. Looking at clouds of malice all around him. “Aah sweet sex,” he said as he lay back and admired the pendulous motion of her beautifully curved breasts. “Live for the moment! Life is short!”

When we plan for the future, essentially what we are doing is putting in place mechanisms for solutions of problems that we predict will occur at some point in the future, when our conscious is juxtaposed against the notion of ‘now’, at that time in the future. So clearly all notions of success, all notions of winning, all notions of advance and progress must be based on the premise that ‘now’ is important.

Rule #5: Be proud of your ego

Ego is a term derived from psychology that has been used pejoratively, or negatively, to describe the amount of ‘self’ that an individual has, measured by another person. (We are taught, the more of it you have, the worse you
Ego in our society is not considered to be a good attribute. However as I see it, its important that individuals have a high sense of self-worth or ego. How you communicate it, handle it and use its another matter.

If you have low self-esteem, low self image or negative self image you will tend to look at factors from a pessimistic point of view. But life can be looked at either positively or negatively, optimistically or pessimistically.

So the reverse holds true. For those with high ego and high self esteem, the more chance there is of seeing or perceiving things in an optimistic and probably therefore beneficial light. This then makes problems associated with life more easily achievable or soluble. This then creates better situations, or instances for people to win in the very hard game of life.

Once one has accepted it, there is nothing wrong with ego per se. Its easy to accept ego in yourself when you can handle it in others. As mentioned before its how its handled that counts.

Also ego is important in the sense that it has been moulded one way or the other by one’s own family experiences. A truly healthy ego, one that is suffused with high self esteem built on solid notions, is probably, but not necessarily, the end product of a healthy family situation. These families would have been characterised by clear objectives made within the family. Structured realistic support would have been given for realistic ambition. Reward would have been given where things of significance were achieved. Mild punishment applied consistently, when ‘errors’ occur.

But if those things did not work, or they were not offered, its not the end of the line. Creating a healthy ego even in one’s forties or later, can be attained.

There is a simple formula I have devised and it goes like this. Get the mind healthy - get the body healthy - get the mind healthy.

Peter’s father lurched at him over the table and this time caught him by surprise. The powerful ‘clip behind the ears’ is something he hated but had to live with. His brother got it. He got it. Its just the way it was. There was never any apparent reason. Perhaps the slip of the tongue or something like that. But bang. Your head would ring. When he caught your ear it would burn. You would hear the blood rushing through your ears…….
The last time Peter had clipped Adam behind the ears was when Adam had hit him back in the stomach. He had been about fourteen or fifteen at the time and was getting stronger and stronger. He was already as big as he was. The fact his father had done it in front of his girlfriend hadn’t helped. For years he had this irritating habit of just lashing out and clipping him for no apparent reason. But enough was enough. He felt no guilt when he smacked him right in the solar plexus. Peter it seems had finally learnt a lesson.

Rule #6: Get the mind healthy – get the body healthy

One of the problems in life is breaking into a circle of causality. Its easier to be overcome by the situation and choose to leave it alone. That is, being overwhelmed as to ‘where to start’ becomes an excuse for not starting at all. Most problems in life are of this nature. For that reason you must take the attitude that it really doesn't matter where you break in, so long as once you have broken into the circle you continue through it logically.

We could be looking at healthy mind, then healthy body. You start by creating a healthy mind which in turn creates the healthy body, which in turn interacts with the mind and makes it even healthier. Alternatively and probably more realistically, you might attempt to start breaking the cycle by identifying a particular physical activity that will start the process of enhancing self esteem. (Throughout I will emphasise taking the simple option, when it occurs, rather than the hard one.)

One of the unfortunate things about established sports, especially those that are competitive, is the people who are in them now have probably been practising that sport for many years. They will have developed high levels of expertise. As soon as you start competing with them you will be a ‘loser’ right from the outset, and your vulnerable ego will suffer. You might want to be noble and beat the odds. But that has all the logic of the surfer who pits his strength and surfs against a wave, rather than with it. Take the simple option which can produce an end result just as good as the difficult option!
The answer is to find a sport that is not inundated with experts and has an individuality of its own; perhaps a certain mystique. This could be archery, karate, possibly scuba-diving, or piloting a glider.

There are hundreds to choose from. Its up to you to keep searching until you find something that you particularly like. However its far better to go through the sports that you can identify with on an intellectual or emotional basis first, weeding out twenty or thirty of them. Then you reduce this to two or three that you actually try and then select one you really like. The notion of finding a sport you are ultimately successful at is very important. We are not talking about a sport in which you have become obsessive. Anybody that spends four hours a day building up muscles upon muscles is really obsessive. And that is unhealthy in itself. The reason we are building up to this sport is to give you individuality, self esteem, and of course peace of mind knowing that you are doing something positive towards the maintenance of your body.

Adam had tried and tried and tried with regard to art and also his sport. His father always teased him about art. That's just for bloody pooftas. What is art anyway. Come to the factory and see art in action. Blah blah blah. And as far as sport was concerned Adam was sick of his Winston Churchill quote. “Whenever I feel the urge to exercise I lie down and wait until it goes away.” Peter never exercised. About the only thing he did that had any physical exertion associated with it was all the sex he had. And Adam sometimes doubted there was much truth in the many stories he told.

I believe human beings have an intrinsic desire to also be artistically involved in life. So you must! This artistic activity can be of a craft nature, an intellectual nature or whatever. For example being involved in art does not necessarily mean painting portraits or playing a piano. It could be writing poetry for which you are the only reader. It could be listening to classical or jazz music. It could be the appreciation of fine wine. But it must be done to the level at which you develop such an expertise that essentially you could be invited to give a talk upon it at a level which would be sufficiently informed to impress others that you do have a superior knowledge of the area. It should
also be something that you are willing to persist with for at least five years. In this sense you will know that its really ‘you’ and not a chimera, or a whim.

Now we have begun to weave an important fabric of self esteem.

At this point, which might take you six months, you have identified a sport and an artistic activity in which you are involved. At this point these activities will probably bear no resemblance whatsoever to your work life or your earning capacity. The chances are if you have carefully selected both of these areas you will have become somebody who has two or more interests that determine you as being quite a unique individual. Again your expertise level will be fairly limited, at this stage. But that won’t matter as you are only competing against yourself. However it will still be a lot higher than those people who you associate with. It will be well above the base level of zero. And don’t forget you will have started to develop a cosmology, which not only will help you come to grips with your place in the universe, but should make you an interesting conversationalist.

You are starting to become a winner!

The above areas are specifically recreational. The final area in self enhancement is in the area in which you create revenue. Although the sport or art you selected could well become revenue earners in their own right at some later stage in your life. (You might even meld one, or both of them to your existing vocation).

It’s important that you select a vocational interest where again you develop a level of expertise that enhances your self-esteem. This incidentally could be a career path you have already taken. It might even mean taking what might be considered, at least initially, a downward step from say being Office Manager to a Chef. However the ultimate situation is to create a skill base for yourself, at which you are very good and which will promise you both financial and emotional rewards for the rest of your life.

So you decide to become a Chef. You want to take the training part-time over a period of three to five years. You then decide to become the best Chef. After another two or three years you could then meld the ‘chef personality’ to your sporting skills, and even with your artistic pursuit.

Rule #7: Achieve uniqueness
Gaynor I don’t know why you waste money on his education. All they are doing at that private school is turning him into a poof. You know what I think of education. I didn’t receive it and its done nothing to dampen my spirits nor to stop making money. There’s a lot of bullshit out there. Self-perpetuating bunch of parasites. The head masters, the teachers being paid to perpetuate the lie that we need more education. We pay money to keep the kids at school longer when they could be out working doing something constructive. Its all a big wank.

To give you an example of the uniqueness you will be able to create for yourself, draw up three lists. One list will be vocational/academic activities, another artistic/cultural pursuits and the other will be sport. List ten items in each column. Then what you will do is link any one item in the sport list with any one item in the arts list with any one item in the vocational list and see what sort of unique character will emerge out of that combination. As an example lets take only five of each category.

<table>
<thead>
<tr>
<th>Physical</th>
<th>Creative</th>
<th>Vocational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karate</td>
<td>Poetry</td>
<td>Chef</td>
</tr>
<tr>
<td>Scuba diving</td>
<td>Classical music (listening)</td>
<td>Wine connoisseur</td>
</tr>
<tr>
<td>Hang gliding</td>
<td>A musical instrument</td>
<td>Journalism</td>
</tr>
<tr>
<td>Archery</td>
<td>Portrait painting</td>
<td>Private Investigator</td>
</tr>
<tr>
<td>Hot air balloon</td>
<td>Stained glass work</td>
<td>Interpreter (foreign language)</td>
</tr>
</tbody>
</table>

And this is how we start to create a uniqueness for you to become a winner in life. You know a scuba diving, poetry writing engineer is a lot more interesting to be with, and has a lot more potential to "win at life", than a
television-watching, cross word doing clerk. The secret is not to dabble in too many activities. Just stick at and get good at three!

Rule #8: Recognise the family

The ‘cult’ of the individual as currently practised in our society is heading in the wrong direction. The emphasis on conspicuous consumption and immediate gratification has lost sight of the individual as a part of a bigger whole. When the victim of crime is treated with less consideration than the perpetrators we know ‘individual rights’ have been taken far further than what is ‘right’ or useful for society. The fact that the notion of family pervades so many cultures and has done so over so many thousands of years testifies to its persistence as a very important institution. This is also an indicator of its resilience too. All this is despite the fact that a high percentage of homicides are related to families and family involvement. However this dysfunction does not invalidate the importance of families rather it just emphasises two things. First, enormous emotional consequences are associated with being a member of the family, and second its important to get the family relationship right.

The family is a stabilising point in the chaotic existence of the individual. To use the term from the spying profession, its a ‘safe house’. When everything else is going wrong in life it should be the one point at which individuals can rally and recharge their psychic batteries ready to go back into the rigours of normal society. The family provides a protective screen or a security net (or should do) throughout life for such things as illness, accidents, personal trauma such as grief, and financial disaster. Also the family reduces a thing psychologists call ‘anomie’, that is, loneliness. It reduces alienation, particularly prevalent these days in a complex fast-moving society. Finally the most important is that the family should provide a model or a series of models for the young. One is a model of interpersonal behaviour. This model demonstrates how individuals will relate to and think about such things as their relationships to the other sex, to other races and to other nationalities.

Another important aspect of modelling is the beginnings of the moral code for the individual. Families are a primary focus for moral codes. One
cannot assume these days that a moral code can be learnt at school. (Although one shouldn't be condemned for thinking they should.) It certainly won't be learnt from the television set which seems to pervade much of the modelling of youngsters these days. Whatever specific moral code a family adopts is sure to be reflected in children's attitudes towards life. The social and personal and other values of the individual will be moulded through the family. Does a person find it easy to get on with other people? Does the person have high regard for themselves? These are the sorts of values we are talking about.

The most basic function of the family should be to foster children through the above. Therefore the family has a significant social value, especially as ‘preventative’ in terms of providing stability and modelling to minimise the chances of the individual turning towards crime with the consequential cost to society and to victims. (Herein lies a good argument, in a crowded world, for parents who can't provide a model, or provide a negative one, not to have children.) And then there are direct savings of course to the government in terms of social security. For example if it were a normal family attitude to have ‘extended families’, that is to have grandparents living with the family and to extend the size of families the dependence of social security could be lessened or even withdrawn.

Families should stay together rather than splitting up as fast as they possibly can, as seems to be the case in a lot of western countries. Wealth could be aggregated. If two or three generations of people were living together, pooling their wealth and their resources, they could obviously afford larger houses with more resources to run the household, including such things as baby sitting. This concept of family has worked well in stabilising societies around the world for thousands of years.

As mentioned in the previous chapter ‘ego’ is an important concept. Without ego there is no self esteem, without self esteem the individual will soon founder and lose the game of life. The family is in an excellent position to properly recognise and reward the child within the family for doing various acts, thus building the ego. Of course when a family is running well its not only children's ego that benefits by being rewarded for good behaviour, but also the self esteem of the parent who is successful in this respect.
To minimise the possibility of things going wrong it is appropriate for parents or grandparents to be around to provide modelling. For example it would not seem appropriate that children hang around schools or home by themselves while both parents are out entertaining themselves or working. This is not a particularly positive way of raising the children. If anything its conditioning the child to become used to the notion of alienation rather than to be actively involved in social interaction.

Whilst sociologists argue, statistics of the future will show that the families where both parents work, to the exclusion of personal involvement in significant child rearing, will leave a legacy of crime, social disharmony, and cost through their selfishness; or lack of foresight. This is not to say that it has to be the male in the family who has to be the income earner. That role can be interchangeable, as it has been in many cultures throughout history. The notion of work being a great goal of feminists will start to evaporate when the full extent of such liberation is felt. That is, the female work force will eventually realise there will always be a work hierarchy with few making it to meaningful and rewarding positions with many being subjugated to repetitive and boring tasks, unless they achieve a unique ‘self’.

It is important that families realise governments are interceding a lot into family areas. And to a certain extent they are trivialising the whole notion of the family. They have already created, or at least facilitated economic situations, apparently in conjunction with advertising agencies, where both parents ‘need to work’ to maintain a certain material existence. This is becoming the norm and will probably get worse in the seventies. ‘Family’ is not the business of government its ‘family’ business.

“Of course I don’t believe in divorce.” said Peter. “It’s too expensive. And why take away the joy of this. The thrill of doing something a bit naughty and not getting caught.” He enjoyed the way she enjoyed doggy style sex. He lingered on the curves of her thighs, felt the soft flesh of her back and cup of her breasts. All very comfortable! And as far as kids are concerned I am a great father. I show Adam how capitalism works. I give him all the lessons of life he can’t learn at school. No, I am for family.
Rule #9 Be a parent

Parents should constantly set standards which reflect the artistic, the sporting, and educational aspects of the child’s life as well as the interpersonal skills necessary for their future success. This responsibility lasts until they leave the family. But obviously encourage them that their home will always be there as a "safe house".

Explain to children, no matter what their age, what the process of family is about, as we are describing it here. Teach the generational link to grandparents. If the grandparents don't exist, teach the generational link to other elderly people so children understand the valuable contribution older people can make to society and families through their knowledge accumulated over the years.

Teach the notion of team within the family by teaching the idea of supporting ‘siblings’. That is, to be supportive to brothers and sisters, not competitive. Reward those behaviours that are demonstrated by children to be in accord with the behaviours we have modelled. To an extent we minimally punish those behaviours that are against the model. The one thing we do not do is to reinforce bad behaviour by ‘being a mate’. That is saying to the little darling who has just punched their brother or sister ‘there, there, darling you should not do that’ and then whisper quite audibly to the neighbour next door ‘he has grown up tough just like his father’.

Family is so precious that I believe its impossible to gain total fulfilment and ‘win’ life unless its experienced, hopefully as a recipient, but definitely as a perpetrator.

Structured family experience should enable children as they grow into adults to move into society with a morality that is intact; with interpersonal skills that will enable them to relate to others and hopefully with the beginnings of models for their own cosmology (gained from you). So we can help our children become winners by preparing them through the family for their first step in society. And you ‘win’ in the process.

You know Adam your biggest problem is you are a loser. And I mean a loser! If you get into fights at school kick the shit out of the other prick. Don’t grizzle to me about it being unfair. Just win!
Rule #10: Contribute to the community

Peter leaned back on his chair at the restaurant with his hands behind his head. He looked squarely into the eyes of the bank manager. “You know Jeff councils are important because they give you the okay to build things. But they are full of wankers. And the best way to deal with those wankers is to give them something they haven’t got. In some places that could be money but that is a bit dangerous in Australia. Although plenty of people do it. No there are better ways. At the factory we produce a lot of things that are a lot of use to a lot of people. There is always something that somebody wants. So don’t give it to them. I sell it to them. Something that normally costs $200 sell it for $20. That’s called community relations. Get to know your council.

Want another beer Mate?

Once you have developed a sporting and an artistic skill you are quite well equipped to move into a sporting or artistic group and take a positive role in the social aspects of that group. Take at least one active role in the administration of one of those groups. Do this for a year or so to learn the rules of being a treasurer or secretary or whatever. But, you should only use a sporting group or the artistic group (or possibly even your work group) as a rehearsal point for a higher order of social or community interaction and responsibility to fulfil your life.

The next step is to appreciate the significance of local government or other local community groups. Study up on one of these organisations. Get as much material as you can on that organisation. Attend meetings. Meet members of the organisation. Use your interesting background of art and sport to ‘break the ice’ when communicating with these members. If its the local government you are aspiring to be a member of, make sure you write a lot of letters to the editor in the local paper. The pay off to you as an individual will be immense if you take this very seriously. And of course local government should be taken seriously, because its the point closest to the individual where he or she can influence group or community decision making, with respect to the society in which they live.
The secret is to be pro-active. You must not wait for people to ask you. You must formulate and construct the opportunities for you to ‘win’ here. This is the point at which you will integrate your philosophies and your reasons for being alive.

Rule #11: Knowing good and evil

When one moves outside of the family and starts interacting with society the real notion of good and evil comes into force. Its interaction outside of the family where the individual is exposed to the thrust of other peoples competing beliefs and sets of values. Its here the ‘Winner’ is able to stake his claim, if the Winner has a notion of good and evil.

Only a small minority of people are particularly evil. By the same token only a small percent of the population are particularly good. The bulk of the population will be right in the middle and generally will be influenced by the actions of either the very evil or the very good, depending upon their exposure. The Winner of course will set his or her own objectives and will not be influenced by other people, but in fact will be the influencer. Hopefully that person will be influencing others from the ‘good’ perspective. But should this be the case? Perhaps its just as effective to operate from an ‘evil’ context.

Many people know, it ‘feels good to be good’. I don’t know whether this has anything to do with conscience but generally speaking when a person performs a good act their consciousness is normally flushed with a feeling that is definitely an enjoyable one. Its only the total psychopath who goes beyond the walls of humanity (and one wonders whether they are a member of it) and commits acts that we consider ‘evil’; and apparently feels ‘good’. People generally do not feel good if they carry out ‘a bad act’. To help explain good and evil I have postulated in my own cosmology, a concept of Barbarians and Saints.

When Peter found out that her husband had committed suicide he didn’t feel a lot. Silly prick he thought. Must have found out what was going on. She asked for it. I just gave it to her. He couldn’t keep her happy and I could. What the hell. And he goes and kills himself. How stupid is he. No balls that’s his problem. Anyway life goes on.
If you accept evolution does occur you will probably also accept evolution does not occur at the same rate, at any particular point in the evolutionary development of a species. There is likely to be some individual organisms within a species more advanced on the evolutionary scale than others. For this reason I think there are those in the human race I call Barbarians. These are people who are throwbacks of several hundred generations and for whatever reasons, not necessarily their own, have not been fortunate enough to make the evolutionary leaps to the higher order of development that characterises mankind and humanity as it moves into the future. Perhaps these are the brutish people who feel ‘good’ when performing ‘bad’ acts.

Then we have the Saints. These are the people who are evolutionarily far more advanced than the normal person. These are the lucky ones who have for whatever reasons skipped a few links in the evolutionary chain and are several generations ahead. The significance of the Barbarians and Saints is important too for those people who want to make a conscious effort to interact with society. If they accept this point as true the Winners generally will avoid the Barbarians and seek out the Saints. The Saints usually stand out. (But then again so do the Barbarians)

With the Barbarians the very best you can do is try to explain matters and possibly fit them into your cosmology. With Saints it will not be necessary to explain anything, they will understand anyway. From your point of view, probably coming from where the majority of people sit, that is right in the middle, you will need to at least aspire to being a Saint to understand the significance of their situation and to use your set of techniques to push your evolution forward.

One of the major problems with ‘evil’ in our society is its apparent perpetuation by the media; especially through television. Violent videos, movies, uncensored and sensational news coverage and so called documentaries have done much to desensitise at least one generation, possibly two. Only a hermit would fail to recognise the social damage that has been done. The days of pleasant family camps, children playing alone in playgrounds or walking home alone from school seem to be ending in the sixties. In the name of ‘political enlightenment’ we have moved backward to
barbarism, at least temporarily. The so called liberationists who gained our freedoms have destroyed them by forcing upon us ‘rights’ that have eroded any sense of social acceptability or social sensitivity. The ‘structure’ in life that came through military training, parental and teacher guidance has all but gone. Television has taken the place of providing the ‘moral model’.

It will probably take at least one, probably two generations of hard work to redress this political and social idiocy. If we don’t we will suffer dire consequences in the eighties, nineties and beyond. So there are lot of problems any number of ‘Winners’ or ‘Saints’ could work on, in our world today.

Rule #12 Win in groups

One of the secrets of success in the various involvements you might ultimately have with your sporting groups, or your artistic groups, or even local government politics, is your ability to handle group situations.

“Of course I’m a team player Gaynor” said Peter. He threw a vodka and orange down and placed the empty glass with a tinge of orange colour carefully to the table. “I am one of the world’s team players. I did my time in the army and got on okay with everybody. I am doing well in the factory. Team player. You bet. Assuming of the course I am the captain of the team. There is no problem. But put me in a situation when I am not captain; ah well that’s not so good.”

In fact to be a winner one of the smartest things you can to do is to always try and manipulate yourself into a situation where you chair or preside over group meetings. Apart from the fact this usually means you only have to use your wits at the time the group comes together, and therefore avoid all of the hard work associated with keeping the books, writing up minutes and so on, you will also accelerate your significance and recognition.

As far as negative feelings are concerned, such as hatred or anger, there are reasons why they occur. An understanding of why they exist will allow you to control those feelings and operate a lot more successfully. The main issue is to ‘win’ over these feelings, which seem so intuitive and so basic.
Projecting anger (or hatred) is one of our biggest problems. Individuals make the mistake of assuming somebody else is angry, because they are. They project their own anger onto that particular person. Transfer of anger is something that is very easy to do too. A particular situation angers you at an early point in the day, say at the breakfast table. The next person you meet, bang! You are angry with them. You transfer the anger of the first situation of the breakfast table over to this person at a later time. This is not good for personal relationships. Finally, humans dream a lot and carry residual aspects of their dreams, even though they can not remember them, into their conscious state. It means if you have had a dream in which you have been frustrated and angry, even though you have forgotten that dream, that residual anger is still there. It does not take you very long to either transfer or project that anger onto another innocent person. Keep these concepts in mind and you might find life is much easier.

The workplace is the one situation where most people are forced to interact with others. This forced interaction is normally outside of the comfort zone. Within the family the comfort zones are usually quite easy to construct. Within the community people can withdraw and not interact if they don't want to. But in the workplace interaction is virtually compulsory. Certain factors have to be accepted in the workplace. One is that seniority does exist. The fact of the matter is when anybody joins a work organisation as a new member straight after school, or changing professions or job type, they have to accept that some people have more expertise and experience than they do. And for this reason those people should be given a certain degree of respect. At least until such times as you the reader have learnt the skills they have. Accept this!

Remember one of the key winning rules in the workplace is to identify the skills you want to have and then place yourself at the disposal of the people who have those skills, ensuring you are learning concepts from them. Whether these people acknowledge you are learning from them or not is irrelevant. You might have to ‘pick their brains’.

Another absolute of the work force is that almost always its a team effort. Generally group problem solving is superior to that of the individual. This is why groups of people working together get further than individuals
working by themselves. So another winning principle with groups is to accept the fact that groups working together will achieve higher levels of achievement or prosperity than individuals working alone.

If you can accept all of this, then what you need to do is to be able to manipulate group situations to your own advantage, creating ‘winning’ teams, of which you are the leader.

Rule #13: Be a member of a nation

I am advocating a formulation of an attitude or a perspective or a philosophy about everything of significance in one's life. So far this book has set the structure in place for the individual to gain an understanding of the universe, him or herself, the family, the community, and the workplace. We now need to consider the more complicated levels of human interaction and come to the notion of nation and nationality.

One of the most fundamental rules of human existence is that any individual, colony, society, or community within it, or any nation, is far from perfect. All of us as individuals or groups make mistakes at some stage in our lives. In fact, if it weren't for making mistakes, there would be no growth of the individual, community, the nation, or society. Through mistake making comes problem-solving. Through experimentation, mistakes must be made before successful solutions are found. In fact, one of the most fundamental rules of life should be that every individual should make an honest mistake daily.

Now there is a difference between making a mistake, and manipulating for change. A mistake is when, with honesty and integrity, someone makes a prediction about a particular route or thought or process and is quite clearly wrong. After finding out they are wrong, they should look for an alternative route, process or principle. On the same basis one should accept that through the process of nationalism many mistakes have been made. But we should be looking for some form of evolutionary development through those mistakes, that ultimately leads to a higher and better state of society that nationalism is supposed to protect or represent.

Nationalism is good if it provides an alternative ‘flavour’ to other nations. That is, a consistent combination of particular ethnic and cultural devices,
which represent one group of people in one geographic region, will have advantages to many people who wish to be a member of that particular group. However that national entity will also be attractive to people of other national entities as a diversion, as a source of entertainment, as a source of education or as a source of intellectual growth.

Nationhood should be considered a macro-level complex made up of individuals, families and communities united, as said, by certain common and consistent cultural devices. Laws which are passed or created at a national level should be done to support all those subordinate groups. That is the individuals, the families, and the communities. It holds that national government will only be as good as the people. Therefore people wishing to have effective national governments must be prepared to form the best government for their benefit. For this reason, they must work hard at it. So far it would seem, quite pragmatically, that some form of democratically elected government is the best choice.

Any nation, although it may be held together by common ethnic and cultural roots, must also be a fluid organism which is able to absorb energy and ideas from other favourably accepted ethnically different nations. Political ideas from other nations, and other ideas that generally work towards the evolution of a national government to a higher, more effective state, should be received as constructive impact.

The first and foremost rule is for the individual not to treat political parties like football teams, and support a political party on the basis of pride, faith or emotion. Rather, support for any political party or group of independents should be a logical and pragmatic decision based on an overall appreciation of what those representatives can do, which will further the cause of that nation, from an evolving point of view.

“Ah well Gaynor see what you’ve got to do is realise this. I’ll vote for anybody that supports business. You’ve got Don Dunstan there with his pink shorts and his poofta mates and his poetry and his cooking. You know I don’t like him. But I will tell you this although I reckon he is a commo I would vote for him if he made business better for me. But he never will. So therefore I won’t vote labour. That’s what politics is all about. Vote for the party that can do the most for you. Tom Playford
knew how to run things. He didn’t wander around in bloody shorts and
sandles. He wore a grey flannel suit. In think those guys in politics
should set an example.”

“What” said Gaynor. “Wearing a grey woollen flannel suit in the
middle of summer in South Australia at a 104 degrees. No that’s not
really very intelligent Peter not very intelligent at all.”

“What’s intelligence got to do with it. Its all about power and
money and making things right for people like me.”

The role of the individual in the nation is to be supportive of the
democratic way and to be pro-active in its support, not reactive or passive. For
the little time available in life for the individual to participate in a free election its
incumbent upon that individual to be truly aware of all the issues at stake.

The reader has only three choices. Totally avoid the whole notion of
national politics and be irresponsible. This will not fulfil part of his game plan,
and there will therefore be a gap overall and he or she will not be a winner.

Another alternative is not to be directly involved in any aspect of
nationalism or national politics but to assist somebody else in doing this. This
is perfectly acceptable as long as its choreographed into the individuals whole
winning game plan.

The most dynamic alternative is for the reader to incorporate into their
game plan some way of participating in the great national debate. Here, he or
she can actually be involved in running as a politician using the same
principles we have already outlined for involvement in group situations and
local government, or to assist others in doing the same.

The major things that tear at a nation’s morality are controversial issues.
These can be extremely divisive as they are potentially potent in terms of two
lots of truths or two lots of lies competing against each other. Its up to the
winner to find his or her crusade. But to have one or more, is essential. Again
life will not be fulfilled unless the challenges are met. However, they may not
have to be at the national level. But its important that the winner has a
‘national’ perspective.

Rule #14: Think internationally
One would hope in the near future that we, as a global community, could enter a golden age of democracy. Its birth could be in a country with a relatively small population base and one that has been a demonstration model of mature democracy. Such a place could be Australia.

There is a long way to go. Ultimately the survival of the planet is dependent upon international co-operation and commonality of effort. The survival of the human psyche is dependant upon international co-operation and a shift for the positive. That is, there must be a perceived evolution of all the struggling that has gone on for several thousands of years, with various nationalistic trends emerging and developing a super state that encompasses a community of all these states. If not, mankind will experience ‘despair’ and ultimately destruction.

Peter looked squarely at George. When Peter got frustrated or angry his face would go a deep red. He now looked the colour of sunburnt beetroot. “You really are a fucking commie George. You might have travelled around the world but your thoughts are so outmoded. The best thing that could ever happen to this planet is for the United States to rule it. As far as I am concerned; as far as Australia is concerned, if they just gave us all a million dollars each our problems will be resolved. That would cost the Americans twelve billion dollars that is billion in the English sense. We would all be millionaires. And we’d live the good life. Anyhow not only would it be good for us it would be a good investment for the yanks. We have oil, gas, iron ore, everything is here. They would get a bargain.”

George looked away from Peter. Peter just didn’t have a clue.

Before this can occur, many crucial issues at the macro or international level need to be explored. The real issues that confront the world need to be precipitated out. For example different countries working on the problems of pollution are really but manifestations of the one major problem. This is overpopulation. Regardless of the effluent we produce in industrial society if the population were small enough, earth as a dynamic and fluid environment would be able to filter such effluent. However its capacity as a regenerating filter is over-taxed by a population the size its. Therefore one point of view, in
this case mine, is that overpopulation is the major concern of our time; and will get much worse by the end of the century.

And then there is religion. Religion can be ultimately divisive unless its real purpose is understood by all. Religion is a series of rituals that satisfy a series of social needs. Its in many instances the medium between understanding the non-understandable (that is creation of the universe, meaning of life, God etc.) and the practical implications of the social interactions of groups of people living together. Religion ritualises many aspects of moral codes necessary for the propagation of our species. For example, monogamy, sanctity and security of property, sanctity and security of life of the individual etc.

At the macro level its rather irrelevant what particular religion an individual follows, so long as that religion is not shrouded in a dogma that is antagonistic to other religions. There are many instances in the world where Islamic religion, Buddhism, Christianity in all of its forms, and many other religions co-exist. This is particularly the case in many Asian countries.

However at a global level religion could become an ultimately divisive issue if its not appreciated by the individual for what it really is. We must remember that whatever the religion, whatever the culture, some people seem to need it as a structured approach to morality. Others do not. And that is not to say that a person without religion doesn't embrace the same morality as his religious brothers. This is an issue that must ultimately be considered at the international level.

There are several levels at which the individual can relate to his or her international role in life. That is to achieve full realisation as an individual within the finite limits of the world in which he or she lives. True internationalism is the level at which comparisons can be made with other systems and other individuals to test the assumptions the reader has made on a cosmological or national level or even the level of family or just plain self. The individuals true and full ‘realisation’ comes about when he or she sees his or her otherself whilst travelling and making these comparisons and thus enjoying being a real member of the human race.

The other perspective is for the reader to develop a game plan of their own in which they can move from a community, vocational, or national role into
one which brings about ultimately a world government. World government is there for the stability of the world and the individual and to also facilitate the ultimate manifestation of the individual's needs, through the stages of development we have discussed. There is no point in total world stability if there isn't stability for the individuals within it. In fact, world stability without individual stability is a contradiction in terms.

The type of world government I foresee is one that handles the macro level decision making. The national or ethnic agglomerations of cultures that would exist within this world government will allow the individual to operate at the world trade level or world market place level when travelling or when dealing in commerce or even in certain aspects of education. But the right sort of world government allows individuals the opportunity to delve back into their own culture whenever they feel the need for ‘orientational’ security. This is very much in line with the need of the individual to go back to the family to withdraw from community or nation, as an anchor point or as a safe house when the need arises.

**Rule #15: Confronting death**

When considering the grooming of the winner, the winner in our game can’t be intimidated by death. Death is the great equaliser. This is where king and pauper, genius and idiot become the singularity. They become one.

Peter always remembered April 30th. That was the day on which Hitler committed suicide. He was in London with Gaynor. Peter had no time for Hitler. In fact he’d nearly lost his life trying to kill Hitler and all his supporters. However he had always wondered what it would be like to take his own life if everything didn’t work out. Committing suicide he thought, its really an act of bravery. If you’ve done the best you can and you can’t do any better then there is no point in hanging around. Get it over and done with. You are going to die anyway. Who cares. “But I don’t intend to do suicide” said Peter to himself “because nothing is going to go wrong.”

The ultimate question will not be how the universe functions or how it began (as we try to explain in our own cosmology), but why. We can formulate
a lot of philosophies about our own life and how to best make it function. But
the lingering question will ultimately be 'why are we alive in the first place', and
of course ‘why do we die’. I believe the last question is certainly a lot easier to
answer than the first.

If we believe the second law of thermo-dynamics, we will see why death
is inevitable. There is a point in time where everything just runs out, or
dissipates. Following this line, death occurs as a natural consequence of life.
Of course death can occur in many forms, through accident and disease.
These are not quite so natural consequences of life. We avoid these as much
as possible.

This raises the question of when to die. Life as we know it, in our most
conscious form, is very sacred and from the individual's point of view must be
lived to the fullest.

To try and defer the responsibility one has to live life to the fullest, and
place it on another plane after death is abdicating responsibility. One must
ensure that life for the individual, and implicitly to others around him or her, is
in the "here and now". Various religions and philosophies that push the
responsibility of life until after death are irresponsible in that they don't confront
this reality. We know, if there is another reality after this life, its quite different
to this one with its own rules or parameters or whatever. These are totally
beyond our current explanation or comprehension. How in that case can we
possibly defer it if we don't know what the rules of that game are?

So death is inevitable! We have already said that up until that point in
time where we evaluate how long one has existed life would seem to have
been infinite. So to win the game of life, we must never fear death. We must
never be intimidated by its inevitability. In fact its inevitability is our salvation.
Imagine how much more confusing the universe would be if only some of us
died and some didn't. Clearly eternal life at least on this planet (ie. in this life)
 isn't a possibility anyway so why even consider it? Well, considering it does a
couple of things. First of all being aware of the notion that dying in fact is
preferable to the alternative. So that starts to take away one of the most
fearful aspects.

Secondly the notion of eternal life makes us consider other things. For
example, even if we were able to consistently and eternally replace various
aspects of the body, to eternally go on, our mind would eventually wear out. There probably is an optimal life span for any individual seeking to make their contribution on this planet. Its probably no mere coincidence that it corresponds to just over three generations. This enables people in most instances to see their children and their grandchildren take foot on this planet and in our human society.

Whether the three generation factor is by divine intervention, evolution, or learned behaviour, is almost irrelevant. It depends what fits into one's personal cosmology. From a family point of view we have already considered the advantages of an extended family existing for two to three generations. Its probably the case that after three generations the mind has ‘been there, done that’ with virtually every aspect of life that the particular individual mind would want to have been exposed to. Too much repetition of experiences leads to cynicism or staleness. If that's the case, this is another reason for not wishing to extend the mind past the point at which it naturally wears out.

Another supporting factor for rejecting eternal life relates to the notion of the ‘bad’ or ‘evil’ aspects of life. Consider the innocence of a child, even your own childhood. Remember how the nastiness of life gradually creeps up on you as innocence is lost. It could well be that extremely long life could be unbearable because of the amassed group of ‘nasties’, leading to depression and extreme cynicism the older you get. Let's just accept that the mind, or the soul, wears out. Let’s consider that its impossible and almost abhorrent to have eternal life. This deters us from wanting to live forever, which hopefully will then endear us to the notion of death, on our terms. And of course it will provide us with the stimulus to make the most of life.

There is an old saying that when a human has died ‘grieving is for the living and not for the dead’. There is much truth in this. The process of grief of course is a very demanding one and does help the living. The dead obviously don't need to grieve. Another's death, when one's grief has passed, should serve as an impetus, or a stimulus to get on with one's own life to make the most of the short period we have on this planet. One should accept the inevitability of death and, within reason, live life as long as possible and as healthily as possible. One should only compromise safety when it exhilarates not replaces an existing quality of life. For example, I consider that people who
skydive or do a lot of mountain climbing probably have a boring life with respect to everything other than doing the actual death-defying acts. One has to ask the question whether they are actually living a balanced life.

Of course this is making the assumption there is an after-life. It's highly likely that there isn't. From that point of view it makes it even more important to make this life a very expansive existence. If our subjective experience of life is infinity, we must make it the richest infinity we possibly can from our own, individual, point of view. The reader then should run through the other consequences of the notion of death, take the reverse and examine it very carefully. Would you wish to live forever? Look at all the negative aspects associated with that.

Rule #16: Follow the new moral code

“Do onto others before they do you”. said Peter. “That’s my code Jeff. It's a dog eat dog world. Screw others or you get screwed. That’s all there is to it. If you are going to do something bad then make sure you get away with it. However you don’t need to do anything bad. There are enough opportunities in life to not even take the risk of being caught and being punished. You need to take life by the throat and choke some sense into it.”

Jeff looked gloomily into his beer. Peter’s ranting didn’t really make him feel very good about himself.

The following are a listing of rules I believe are necessary for the individual to further win the game of life. Various moral codes have been formulated by different religions and political groups. There needs to be a new code that transcends national borders and religious dogma, but allows for those also to exist. This code must enhance ‘internationalism’ without threatening individual cultures.

The new moral code
1) Every individual has a responsibility to fully realise their own human existence, and to facilitate as much as possible the realisation of the existence of other individuals especially those closest to them.

2) Every individual must establish a structure for understanding or at least attempting to understand their position in the universe with respect to the beginning of the universe and the existence of man, by developing their own cosmologies or borrowing from others' philosophies and cosmology.

3) Every individual has a responsibility for developing a strong self-ego and respecting valid egos in others. This ego should be attained by pursuing and becoming expert in at least one area of art, one area of physical activity, and one area of 'vocational' application.

4) Every individual must formulate a 'responsibility-need' with respect to their parents and to their children, and to link these responsibilities into a notion of extended family which should be economically self-sufficient, that is, independent to any government support.

5) Every individual should formulate a notion and strategy of their role in terms of community, nation, and a whole world experience.

6) Every individual should incorporate, as part of their cosmology or as a pragmatic statement, the inevitability of their own death and the striving for a long and healthy life as the optimisation of that life before its cessation.

7) Every individual should accept the difference between 'bad' and 'good' within the context of their society, and accept that actions of goodness are more conducive to a sense of well-being and strong-ego than acts of malice, evil, or intimidation.

8) Individuals should never demand or expect other individuals to do more than themselves; but they can expect in the fullness of time others to achieve the levels they achieve, given they help other individuals in the acquisition of the appropriate knowledge.

9) Every individual should be prepared to make, acknowledge, and learn from, one mistake a day.

10) Every individual should accept behaviour can be changed by punishment and reward but that reward is by far the most powerful
changer of behaviour, and wherever possible should be used in preference to punishment.

11) Every individual must accept that ultimately all human endeavour is a consequence of team effort and that no individual has ever made one single invention without resting on the labours of others. Therefore the notion of perfect singular discovery is impossible. We are all indebted to other members of the race for all success, and for that matter, all failure.

12) The Final, Overriding Rule

At any time any individual should formulate supplementary rules to assist him/her in the attainment and the implementation of a strong moral code that will guide them through all societies, all religions, and lifestyles that will be to their greatest personal good, and hopefully ultimately for the greatest good of all others they interact with.

The final chapters Adam noticed were very detailed. They covered a series of steps, culminating in a process that enabled the reader to draft a specific strategic plan to bring together all the elements he had just described. This was to make the reader a ‘unique winner’.

It didn’t take Adam that long to read the treatise. The one thing he had noted was that Fabian had spoken as though he had a family. Adam knew that there was no family. He realised that Fabian had been writing as everyman, not part of a homosexual subset. This impressed him.

Adam lay back onto his pillow, both hands clasped behind his head. He thought deeply. It had taken him just on an hour to read the manuscript. There were many things there he had never considered. His life to this point had been very full. There had been his own selfish reflections upon the demise of the human race through some sort of nuclear meltdown. He had not given a lot of thought to the way people should structure their lives to make those lives better. He had listened to John rattling on endlessly at parties but had always considered that to be a form of hypnosis that John used to seduce as many women as he possibly could. It had seemed to work. Fabian’s stuff was different. The awful truth was that Fabian, after writing these words for future generations took his own life in what apparently seemed a desperate act. Why on earth would he carry out such a seemingly egregious act? How forlorn were
his thoughts at that terrible time. The instant of death must have lingered for an eternity in Fabian’s consciousness.

Adam unclasped his hands and lay on his side. Sleep swept into his mind and unleashed a torrent of thought. His life had to change.
CHAPTER FIVE

War

On the beach

Les’s jockette had been pulled down so far his buttocks protruded menacingly. It was well over a hundred degrees in the scorching Adelaide sun on Semaphore Beach. Les was a derelict. He had long black greasy hair that flowed in treacle clumps to his pure white shoulders. Plump albino looking skin was ready to cook and peel. Les never said very much to the group. He was older than the others. How old nobody knew. He had been around for a long time and seemed to have ready access to amphetamines and morphine if anybody could be bothered asking him. Fortunately most people in the group didn’t.

A flagon of claret, sand encrusted and only a quarter full was nestled beside him. To Adam the flagon was symbolic of Semaphore beach. He’d spent many demented afternoons, drinking wine, making love and periodically peeking over the tops of the sundunes to see if anybody was looking (not that he’d really care).

Les started mumbling something. His face was half buried in the sand. His black beard had momentarily become white; viking like. Sibilant singing trickled from his lips.
“I am a soldier, a lonely soldier, away from home, through no wish of my own.”

Adam paused and looked at John. Again he was guru like, talking to one of two girlfriends he had brought along with him on this beach sojourn. John glanced up at him and Les.

Les continued. “never, never a letter. …..in the mail.

I’m a soldier, a lonely soldier”.

“What the fuck are you whinging about Les”, queried John.

Les pulled himself up, trembled a little and lent on his right arm, staring toward Adam and John and the girls.

“Haven’t you heard Dean is back?”

“Dean is in Vietnam”, John fired back.

“Yes”, replied Les. “His father owned a building company. He dropped dead the other day. Evidently the army was contacted by the hysterical mother. The army then insisted that Dean be brought back out of action to take over his father’s business. Some sort of PR exercise I think”.

“Lucky Dean”, said Adam. “Or maybe not so lucky in the first place. His marble didn’t roll the right way on his birthday. Not like ours I guess. Who knows what we would have done if we’d had the same bad luck”.

“Evidently they took a helicopter right up to the front line. Picked him up in the middle of the jungle. Took him back to base. Put him in a brand new dress uniform. I think that’s what they call them for formal occasions. Took a whole pile of photographs of him. Put him on a plane and brought him back to Adelaide. Photographers everywhere. It was on TV,” Les liked being able to break news before anybody else.

“Oh well” said Adam, “he’s probably earned the rest.”

“Did you hear what happened to him in the jungle?” said Les.

“No”, chorused John and Adam.

“Evidently he was strafed by a Viet Cong machine gun. It shot the epaulets off his shoulder and ran down one side of his arm shooting his shirt sleeve off. Evidently he didn’t get a mark. Not a scratch. Not a burn. Just a tattered shirt. More luck I guess”, said Les

“More luck I guess”, repeated Adam.

“I wonder if he is a hero. Asked John. “I wonder what a hero really is.”
Adam murmured, just loud enough for the others to hear. “I’m not psychotic enough. In the back of my mind I actually wanted to go to the war. I think. To see if I’m a hero. I still don’t know and probably will never know whether I am. But I’ve got these theories see. One day you can wake up in the morning and be a hero. Do all those selfless heroic acts. Over the top. That sort of thing. Its all in the mind. But you could wake up the next day or the day before or even the same day and not feel like a hero. Have reservations about everything you do. Feel nervous at the slightest of sounds. Feel like a coward. Act like a coward. Who knows? Perhaps its the luck of the draw in terms of biochemistry. It depends upon what you had to eat the night before. What chemicals are in your bloodstream? Your state of mind is affected by all those things you know.”

“Very profound”, said John sarcastically.

“No I really don’t know what its like. I think it was Ben Jonson who said a man who’s never been to war will always wonder what he’d be like in war. I haven’t gone out of my way to volunteer for it. And also there’s all that stuff about whether this war is a proper war or not. Although I don’t know what that means either. What’s a proper war? Am I a coward in other circumstances?”

“You mean like Fabian”, interrupted John.

“Let’s leave Fabian out of it”, said Adam.

“Well he was a poofter who couldn’t face life”, challenged John. “Like most of them.”

“Forget it” insisted Adam. Who knows if he was a coward? What were the circumstances? What was his mind set at the time? What was his blood chemistry like. Maybe his suicide really wasn’t suicide. Maybe it was an accident.” Adam had already considered that Fabian might have sacrificed himself with his lover, to demonstrate the briefness of life.

“Not fucking likely”, said John. “His mate ended up hanging next to him. They were macabre and probably demonic. If you want to be a hero Adam you don’t have to wait for a war to be a hero. In fact if you pulled your finger out and started taking life a bit more seriously you might become a hero and then you wouldn’t have to worry or wonder.”

Les interrupted “I think my father was a hero although he is a complete fuckwit now. He did a fair bit of stuff in the second world war.”
Both John and Adam fell silent for some minutes. The girls weren’t even remotely interested. They continued sunbathing next to John. If they were awake it wasn’t obvious. Seagulls danced around them. Children shrieked as the surf foam chased them up the beach.

“I think fathers get angry at a certain age”, said John. “In my case I don’t know what he did in the war. He probably was a cook or something. He certainly wasn’t in the tank core like yours Adam. But anyhow he got angry soon enough. Probably angry with the insignificance of his life after the war. And I think that anger comes about in a man’s middle age unless he is totally financially successful and screwing every woman on the planet. For those who don’t make it the anger translates into the need for another war fought on their behalf by the ones they are envious of. That means their own sons. Us, in other words.”

“Sounds a bit like Oedipus stuff to me” said Adam. “However I’m sure my father wouldn’t be too worried if I turned up being shot. And he certainly is middle aged and angry. Whatever heroic actions he did in his youth, or accidentally stumbled upon, or felt the need to perform, or was psychotic enough to do anyway, I’m sure he would love to see me up there in Vietnam.”

“Anyway Fabian was effete”, shouted John for no apparent reason.

“Are you trying to be provocative?”, asked Adam.

“Fabian was pathetic. He had you conned because he looked after you when you were a teenager, spoiling you with his suits and stuff. He probably wanted to screw you as well.”

Adam was quick to respond. “Fabian had a lot of very good points. In fact there are things I know about him that you don’t know. He was very prophetic. He has, or rather he had, some terrific ideas that were far more advanced than your baby boomer bullshit John. He put together some pretty comprehensive thoughts about where we should all be heading as individuals, as families, as a nation.”

“Look boy, a poofter is a poofter. Fabian was one of them. I don’t think he was a great mind.”

“You mean not a great mind like yours”, interrupted Adam.

“Yeah something like that.”
“Believe me”, retorted Adam angrily as he stood up picked up his towel and brushed off the sand, “you are no genius. It takes a genius to recognise one. You wouldn’t know whether I am a genius or Fabian’s a genius or not. But I tell you what. I can categorically state you are not a genius, monologist or not. I might see you later”, said Adam. And he stumbled off, carrying his towel and sandals in one hand, his poetry folder in the other, crossing the burning sand towards his car.

He gazed admiringly at his red Sunbeam Alpine. He loved his car. Nobody seemed to be able to work out how he, apparently without significant support, could manage the cost of such a vehicle. Adam had a secret.

**Sliding down the hill**

Adam flicked on the car radio as he sped to Mary’s place. The song swam into his consciousness.

*Dreamin, I’m always dreamin.*

“Hmm”, he mumbled,

The secret is to have a dream and to keep it alive when you go to bed. Go to bed with one dream. Get up in the morning and if the dream still isn’t there change the dream. He opened the car door for Mary and noticed with slight annoyance the large freckles on an otherwise perfect cleavage.

He didn’t have any emotional bonds with Mary but she was good for debate and carnal pleasures (on certain occasions). He picked up some cold beer, sped along the winding road through Waterfall Gully, parked the car and struggled with her up a steep slope until he found a dried grassy patch that was soft enough to sit on, to lie on, and look at the road below. A good vantage point to spot approaching owners of the property or occasional peeping Toms who were known to hang out in the area.

Penetration was impossible. He was flaccid. Making love or playing sex didn’t fit the moment. She was a red haired beauty. An enticing figure, a provocative poise and a lust for the coital. She didn’t think very much of Adam. She was almost intimidating in her intensity but all he could think about was the existence of God and what he’d done to Fabian. And besides that he was slowly slipping down the hill. To maintain an erection, locate it in
the appropriate place, consider the presence of God and not slide down the hill was impossible.

“You know”, he said as he licked her nipple starting to energise his body with hers, and at the same time placing his foot firmly against the trunk of a small tree to stop his further slipping down the hill, I can prove God exists.”

“That’s amazing Adam. Just the right time for a heavenly interlude.” Her sarcasm cut deep, his flaccidity increased. “Why on earth are you thinking of God right now?” asked Mary.

“Because I am a genius”, he half jokingly responded.

Her lust had dissipated. She sat up.

“Prove to me God exists and I’ll believe you’re a genius, if not a lover.”

Adam was aware that Mary had received far more religious indoctrination than he could even conceive of. She was a convent girl. She’d probably heard all the arguments for and against God everyday of her life.

“Well I’ll begin. Its all to do with verbs and nouns. Its all to do with how and why. I need a piece of paper.” She looked round. He grasped his shirt and found his ubiquitous pen. He always carried a pen. You never know when there is a party address to take down, a line of poetry, take a telephone number. That sort of thing. But no paper.

He glanced at a Dunhill cigarette packet near him. For once he was thankful for those who littered. He grabbed the packet, opened it to see if there were any cigarettes left. There wasn’t. He sniffed inside and relished the sweet smell of tobacco although he didn’t smoke. He tore the packet at the corners and laid it out flat. Just enough white cardboard showing for him to be able to draw his diagram.

“Of course, of course, its all got to do with nouns and verbs and how and why. Why wouldn’t it be?” she said sarcastically.

“Try this on”, he said quickly. Consider that we can describe all things in terms of a verb and noun function. For example if I ask you what the function of a door is in a room and ask you to describe it as a verb and a noun what would you say.”

She looked at him glumly. “That’s pathetic”, she said. “What’s that got to do with God?”

“Try it”, he demanded.
“Oh well just to humour you. The function of the door. Two words. A verb and a noun. Ok. *Provide privacy.*”

“Alright”, said Adam. “What happens if inside the room is air conditioned but outside is not. What is its function then, the function of the door?”

“*Contain atmosphere*”, she said.

“That’s good”. "But what else. Say its a boardroom?”

“*Provide status*”, she said.

“Your very good.” I can guarantee you that if you thought about it long enough, you’d probably think of about twenty or thirty different functions for that single door. That’s what I mean about using a verb or noun. Sometimes we might even put an adjective or something before the noun just to spice it up. For example if we were going to fireproof the door because we didn’t want fire to spread through the building we might say one of the functions of the door is to *contain fire*. But we could qualify that by saying *contain major fires*, by adding an adjective. Or we could even add an adverb to the end and say *contain fires indefinitely* or something like that. You get the gist”.

“Yes”, she said sounding a little bored. “I get the gist, unfortunately.”

By now she had straightened her skirt. She didn’t wear underwear which was one of the things that Adam did like about Mary. She said it made her feel a lot freer as a person.

“Now I want to introduce the *how* and *why* concept. If we describe a series of functions that are related to each other what we can do is place them in a straight line and when we read from right to left they answer the question ‘why’ and when we read from left to right they are answering a *how* question. Do you get that bit?”

“Its not rocket science”, she said. “Its fairly basic. I think I can keep up”.

Adam was not totally insensitive to the sarcasm.

“Well take this. On the extreme right hand side if you can visualise it. No wait”, he wrote down three words on the inside of the cigarette box which he had unfolded.

“*Form physical universe.*”

“That’s three words not two”, said Mary.
“I’m using an adjective for affect”, replied Adam. “Why do you think the universe was formed? Now whether that was by God or by anyone else or by natural formation. Try it. Remember verb and noun only.”

She thought for a moment. “I guess we could put down something like support life.”

“That’s good” he said. And wrote down support life.

“Why do you think the function of supporting life ultimately exists in the universe?”

She hesitated for a while. “I can’t think of anything. Perhaps its to enable fun. Or to have fun.”

Adam paused and suggested “Well why don’t we put enable awareness.”

Mary didn’t reply.

“Ok that’s it. Why do you think they, he, she or it wants to enable awareness?”, Adam asked.

“Ok, let’s get sophisticated”, she said. “Let’s try something like facilitate cosmic direction.”

“Your time at the convent hasn’t been wasted.”

“English was one of my best subjects”, she said.

“Ok, let’s take it a step further. Why would we want to facilitate cosmic direction?”

“I haven’t got a clue. Perhaps that’s God’s will”. Mary was becoming impatient.

“Well let’s try allowing or to allow cosmic evolution”, said Adam.

“What do you mean by cosmic evolution?”

“I don’t just mean basic evolution, but evolution on a grand scale across the universe not just on the planet earth. I believe that evolution evolves towards certain things. Perhaps towards an end point of perfection. Who knows. Just try that one.”

“The final question,” he said “Why do you think he, she or it would allow cosmic evolution”.

“You’ve got me.”

“Well let me put this last one in. Its to develop deity.”

“What do you mean develop deity?”, she commented.
Adam replied victoriously *Develop a God*. The whole point of allowing cosmic evolution and so forth is to *develop a deity*. Read it backwards now to the *how*. How do we *develop a deity*. Allow cosmic evolution. How do we *allow cosmic evolution*, by facilitating cosmic direction. How do we *facilitate cosmic direction by enabling awareness*. How do we *enable awareness*, by *supporting life*. How do we do that? *We form a physical universe!*

“Well how will that prove the existence of God?” Mary asked.

“That’s where one last concept comes in. We draw a loop right across the bottom from *develop deity* around to form *physical universe*. That’s going now from left around to right but at a different level. So if we were to ask a question *why do we develop* or *why has a deity developed* the answer would be to *form a physical universe*. We have completed the cycle. Can you see where I am headed?”

“I think so”, she answered.

“Well very simply if we ask the question *how do you form a physical universe* in the first instance you go back to *developing a deity* which is on the extreme left of the critical path we first developed. The whole thing is linked. Anywhere you slip into the cycle you answer a question either based on the *how* or *why* question. It all fits together. I didn’t say I would prove the existence of any particular religion or that I would represent any denomination, I’m just saying for the physical universe that we live in right now there has to be a deity and the whole thing is interlinked. What do you think? Am I smart?” Adam was feeling smug.

Mary didn’t answer immediately, but then cooed. “That’s not bad especially for somebody who only trained as a teacher. In fact its quite exciting. “We’ll start the evening all over again if you like”, she said. She lay down again.

“I can feel myself slipping down the hill again”, said Adam.

“Balance yourself”, she commanded. “You do think you’re so smart Adam; but there are certain things you just completely miss out on. You’re not the only bright one.”

“Well prove that to me. Have you had any bright ideas lately?”

“Well I have”. She hesitated. “You’ll think its stupid.”

“No I won’t.”
“Well last week I thought of an idea for a kid’s book. I’ve called it Teddy Wars. You know like in teddy bears.”

“What do you mean by Teddy Wars? Where’s the war. Who’s in it?”

“Well its based in the bedroom”, she said.

“You mean like in the Nut Cracker Suite”, said Adam.

“A bit like that but only different.”

“Why teddy bears?”

Mary replied “Everybody likes teddies. They’re nice.” Therefore I considered this idea of having various teddy bears fighting amongst each other. It would make it just that more interesting. Haven’t you noticed how people have started collecting teddy bears? They have teddy bears that are dressed in different outfits. The outfits represent different things. Some commercial organisations have made little jumpers for the teddy bears with company logos on them I thought I would have the teddy bears getting into gangs and fighting each other.”

“That’s awful”, said Adam. “You will ruin the dreams of many children. Who’s the enemy?”, he added.

“I just told you, all the other teddies.”

“Where did the teddies learn to fight?”

“Ahh that’s the interesting bit. I am going to have them learn their fighting techniques from kids who in turn learn them from television. That’s the way I can at least have a shot at television and its bad influence on kids.”

“Have you ever thought of being a teacher? Maybe a primary or infant teacher”, asked Adam.

“No I’ve got some more high powered goals in my life” she answered critically, “What other bright ideas have you got right now”

Adam and Mary fell into a silent spell. Adam knew he couldn’t rekindle his lust, especially with the sharp twigs and dried leaves all around. It made things uncomfortable for him. Mary was oblivious to the discomfort.

“One for the road then” said Mary.

“What do you mean if I had any other bright ideas?” asked Adam, avoiding the obvious.

“That’s not exactly what I meant but give that a go too if it thrills you”, she said. “Nothing else seems too.”
“Well I think I invented an engine for a flying saucer or at least I’ve started to understand the concepts of a flying saucer.”

“Oh this will be great” Mary said. “Just keep it brief and explain it to me.”

Adam continued. “Well I’m quite sure in the future that there is going to be the development of a material that is not metallic but is magnetic. It will be extremely strong and extremely light like plastic but magnetic. That’s the clue. In terms of the energy to drive the saucer, think of what happens with spinning tops. There will be a central core inside a huge spinning top made of this material. The spinning top will spin at an incredible speed through power generated through a small nuclear fusion unit which is a bit like nuclear power but cleaner. This is in the central core of this huge spinning top”.

“Where are you going to put the pilot and people?”, said Mary. “You can’t sit them on the outside of the spinning top. They will fly off.”

“No we will put them inside the spinning top. There is a massive amount of space in the spinning top that can be anchored to a central core. Plenty of space. You could fit hundreds of people in. Heavens knows how fast the thing will go. Perhaps somebody will take this idea and work on it. I’m not a scientist.”

“Oh dear you should patent it before it runs away from you.” There was a pause. “Now, I think its time to go”, said Mary. “And it won’t have any windows if the central part is surrounded by a spinning top. Nobody will be able to see out”. Mary was teasing.

Adam replied. “The top and bottom parts of the core would be separate to the spinning part, and stick out. That could have windows in it.”

Adam could see that she wasn’t terribly impressed. “I have to admit. Sometimes the excitement that comes from ideas, thoughts, arguments and debates is far more inspiring than a thirty second or so orgasm.”

“That’s obvious. Do you want some more beer?”, Mary said.

She passed him a can and he had a quick swig. He felt something with his tongue but it was too late. It had been washed down his throat with the beer. He thought back. At one point he’d seen Mary playing with the can but had not noticed anything untoward and thought nothing of it.

They stumbled down the side of the hill towards his car.

“This is a nice car Adam. Where do you get the money?”
“It’s my secret.”

Adam knew that his sexual ineffectiveness would become legendary within the week. Mary had a big mouth. He couldn’t think of anyway of talking himself out of this short of raping her on the spot. And that, under the circumstances, was impossible too. He resigned himself to the fact that his reputation as a lover wouldn’t last the end of the month. But, after reading Fabion’s treatise, living a dissipated life wasn’t so attractive anymore.

He dropped Mary off and started to feel a little queasy. Rain started to fall although it was a very warm night. A thunderstorm was impending. He stopped the car and put the hood up. He got back in. He suddenly noticed that the golden light from the street lamps was dripping down onto a road that looked like a river of gold in full flood. He was overcome as the wet gold of the road rose up to meet his eyes. With sheer concentration he made the last few minutes of his trip sufficiently conscious so that he was able to guide the car to his apartment. He knew that Mary had dropped an LSD tab into his drink.

**Makers of fine minds**

Adam lay on his bed looking at the concrete block walls, gray and drab, spattered with the residue of dried tomatoes. Some of his crazy friends had brought him a box of overripe tomatoes and then proceeded to have a tomato fight in his apartment. He traced out the tracks of the amber droplets. They created bizarre images on the wall. He put on the radio and noticed that the music was unrecognizable to him but it fitted the images. He knew from some of his own teacher training exercises that sound will match any images and seem to have meaning. The mind will form associations rapidly between any sound and any image. He looked at the tomato smudges again. This seemed more profound than any artwork he had ever seen. He wanted and searched for a symbol and found a question mark. He looked harder and found another inverted question mark snuggled tightly against the first question mark. Here was a symbol. He grasped at the meaning of the symbol. To have an external symbol of one’s self is immortality. Is it in one’s likeness? No. There is far more power in the symbol not knowing what the
person who the symbol represents looks like. For example a photograph of Mao, or a statue of Lennin is not as powerful as the simple cross, the symbol of Christ. The symbol lasts much, much longer. His thoughts wandered. Three streaks of tomato had run down the wall much like the shape of an ‘m’. He thought of the hamburger chain that was growing so rapidly in the United States. He had heard of them through a few people, although he had not seen one of the McDonalds. Their ambition was to have a store in every country on earth. In every population centre of more than twenty thousand people he had been told. They will McDonalise the world.

He thought back to the morning when he had wondered what it was like to be a true hero.

A hero takes risks. He, Adam, must take a risk. He must make a statement. There must be a message somewhere in all of this.

It was then he thought of McDonaldising the human mind. A chain of fast food stores is going to sell its products and foist its culture across the planet. He would like to do the same with the human mind. Imprint upon it certain beliefs, certain ideas. Not political, not religious. Good learning experiences. He will have a chain of stores. No, not stores, just retreats in special locations. And in those edifices will be all the processes to enable him and his team to be the makers of fine minds. He had a glimpse of the future.

I must be the hero. The planning must commence. He settled down to wait for the effects of the LSD to pass. Having a notion of the future he thought was such an incredibly important thing. Here he sat alone in an old one bedroom apartment with stained tomatoes on the wall. But he knew at this instance that there was a future. He even believed that sometime in the future there would be a formal study of futures. He had heard that one organisation in America had been created which produced a magazine called The Futurist. Somebody had told him that there were copies at the university library. He would go there and seek it out. But for the moment he would lie quietly, gather his thoughts in a few hours and begin the process of building his dream.

*What’s in a name?*
Summer morning sun slashed a path through the dust mites and onto his bed and splashed heat all over his face. Adam awoke and rolled into the shade. The window was open and the soft breeze cooled him. Devinci's Retreat. The Mind Centre. “What's in a name”, he thought to himself. The Brain Centre. The Thinking Centre. The Strategy Factory. All these names raced through his mind. He pondered them and wrote them on a piece of foolscap paper. And then alongside each name he sketched the logo of two interlocking question marks, bottom to top, top to bottom. Holding the paper at different angles, repeating the names aloud, he decided on Thinking Factory. Yes. This encapsulates the process of thoughtfulness, decision making, reflection, but yet with the atmosphere of industry.

You donkey. React against me as much as you like. Sooner or later you will catch the disease of capitalism. Even I had pathetic ideas of socialism but I was much younger than you. A stint in the army boy. That’s when you realize what is right, what is just, what makes the world go round. Ha, just you wait! A month, a year, a decade. The bug will get you. You are your father's son no matter what you say. You will become one of us. You will break out and you will try your hardest to build up the very material possessions you say you despise.

Adam felt almost furtive. He had rebelled so precipitously, so completely against his fathers notion of capitalism. But, well, this was different. This was an intellectual exercise with imperial ambition. Adam had a vision and it would not be comprised by petty self-doubt or guilt. His vision was to begin an inescapable mission. And that mission must succeed.

He dragged himself from bed and wandered over to the small school desk he had bought from a second hand store. The names of many had been engraved and ink spattered into the wood. The veneer had lifted in places exposing the plywood below. He took some blank sheets of paper which he kept especially for writing his poems and started to sketch out a design. He would need a central meeting room with enough space for twenty people to be comfortably accommodated. He would need break-out areas so that smaller groups could work. He decided that if the main conference room accommodated twenty then there should be twenty separate bedrooms. No bunk-house style for thinkers. Their own room with their own bathroom.
There would need to be a dining room to support that many people plus a few more if there were guests. And a kitchen to support the dining room. Of course, there would need to be a courtyard for strolls and thoughtful discourse. The sort of thing Aristotle would have had at his academy. Eventually he drew up a concept. The building was shaped like the letter ‘Y’. The base of the ‘Y’ was to be the conference room and the two storey accommodation block made up the wings of the Y. Four wings of bedrooms all together. Also incorporated into the sides of the letter Y were breakout areas and the dining room and other working areas such as the laundry.

Then he thought about a theme. There needs to be themes and artifacts to stimulate thought. For the conference room he thought of a theme that related to industry and to great break-throughs in thinking, especially in group situations. He knew a little about Thomas Edison and decided to call this *Edison’s Laboratory*. For the four wings of bedrooms he decided on the *Freud* wing to honour one of history’s greats in terms of psychology and thinking. He named another area the *Mozart* wing. He did this out of the contribution of music to thinking. And of course for one of the greatest minds, the *Einstein* wing. The *Da Vinci* wing was a must too. Adam regarded Da Vinci as one of the greatest creative thinkers of all time.

He looked at his sketch, he looked at the logo and name and looked at the themes. He was very satisfied. Adam was amazed at his entrepreneurial flair. The thought of ‘like father like son’; flashed through his mind. Much to his annoyance.

Adam felt extremely buoyant. He bounced out of his apartment and into his car thankful that he had chosen teaching as his first profession. He had plenty of holidays. Here at the beginning of December he knew he had nearly two months of paid leave.

He started scouring antique shops and was amazed at the brick-a-brac he was able to accumulate. He found an old Eda-phone. This was a real working dictaphone from Edison’s period, replete with the Edison insignia on the inside. He found an old gramophone from the same period. These would make excellent pieces to stimulate thought in Edison’s Laboratory. For a hundred dollars he was able to purchase an old piano. He would strip this and cannibalise it using various pieces as artifacts in the Mozart wing. Freud
was a little more difficult. He was able to procure a chaise-lounge which he would take to his father’s factory and have one of the workers cut neatly in half, bisecting it so that it formed two narrow chaise-lounges. These he would bolt to the wall for affect.

Einstein was even more difficult but he was able to pick up photographs of Einstein which he had framed. He was able to do the same with Da Vinci; taking various photos of Da Vinci’s work and having them blown up to very imposing sizes. These would look excellent on the walls.

Next of course would be the site. This was not quite so easy. At some stage he would have to finance the whole project. He had been terribly optimistic in believing that if he drafted a convincing proposal and took this to the bank they would be so enamoured with the project they would immediately fund it. He was later to find out how difficult this was.

Adam drove around endlessly, mostly by himself but occasionally with Mary, looking for a sizeable piece of land. Finally he settled on a small acreage in the Basket Range, just north-east of the Adelaide suburbs in the Adelaide Hills. It was a delightful spot. Close by somebody had build a replica of a castle and called it Camelot. He thought this alone would add to the interest of the area and would help him. The castle had to be passed to access his proposed property.

Finally came the time to purchase the land. He had drafted a formidable document. The concept was laid out in general terms and then the themes were described in detail. He had a friend who was an architect at Adelaide University draft out plans ready to go to Council. He made some optimistic predictions about the level of revenue he would be able to produce in his Thinking Factory.

Already he had a dream of a chain of such enterprises. The term factory he thought was favourable as this would mean that he would not always locate them in the countryside. Some would be city central establishments; but also with accommodation and plenty of conference space and of course thinking space. He would look at the notion of using old factories, somewhere, some time into the far future. However, there was always that uncomfortable feeling that the hellhole of his father’s factory had left its indelible mark on his sole.
Then disaster struck.

The first bank he approached he wasn’t even able to get as far as the loans officer. He had intended only to speak with managers. He had naively approached his own bank which regarded him as merely a teacher with a wild idea. He then approached three other banks where he had no connections. The same applied once he was asked for his profession, his salary and so forth. Insufficient funds they all said. You will need to put up at least two hundred thousand dollars. The only person he could think of that had two hundred thousand dollars (and even that he wasn’t sure of) was his father. The confidence in his entrepreneurial flair took a flogging!

He thought carefully. He then approached the bank manager who handled all his father’s affairs asking for complete confidentiality. The manager responded very favourably to the concept but said “You need money. There needs to be what we call hurt money”, he said. “You have to put something up. What have you got?”

“Nothing but the idea”, Adam responded.

“I think you’d better approach your father. If he backs it, we’ll back it.”

And because of the sour relationship between Adam and his father the concept was nearly stillborn. However some nights spent with Mary, and several intense re-readings of Fabian’s manuscript gave him the courage to become the hero he wished to become.

Fabian’s words re-inspired him. “I need a place”, he said to Mary. “I need a place”, he repeated, “that brings to life the essence of what Fabian had been talking about. My Thinking Factories will be there to develop the individual, develop the family indirectly, to develop companies and in turn state and nation.”

“Grandiose ideas”, said Mary. The sarcasm hadn’t decreased. “I think you’d better get on your hands and knees and crawl to your father.”

“I’m beginning to think you are right”, Adam said with a great deal of reluctance in his voice.

One piece of good news that he had received was that the bank manager was prepared to give him sufficient money to put a deposit on the land to secure it. He was able to take up an option with the vendor to purchase the land within six months.
To realise his burning ambition, he took the final step of driving to his father’s factory one fiery, hellish summer’s day in late December. He parked his car near the front entrance which shimmered in the heat. As he was leaving his car his father appeared at the main entrance. For a second Adam had the fantasy that his father looked like a dwarf standing in the mouth of a huge groper. The groper was ready to devour everything in the universe. He was alarmed but his father broke the spell.

“Shit where did you get that from” his father said eyeing off the Sunbeam Alpine that also shimmered in the heat.

“One of those little things that a final year student about to teach can afford through prudent saving”, Adam said quietly. No point in provoking him in anyway.

“I suspect you have some other sources of income Adam my boy. But then again you are the son of a capitalist. I won’t deny you that. Come for money have you.”

“Well the fact is I have. I have a little venture that I….”

“Its not so little. I know all about it. Jeff told me.”

“Who the hell if Jeff”, said Adam.

“Jeff is my bank manager. You were with him the other day. He’s discussed the whole issue with me”. Peter looked every bit as supreme as he evidently felt.

“What did he think?”

“He thinks, despite my comments, that the idea might just work. Probably about half as successfully as you think it will. He has taken that into consideration with your financial projections. Evidently you need about two hundred to two hundred and fifty thousand dollars to complete the whole thing. That’s a lot of money.”

“Can you lend it?”

“No I can’t but you don’t need two hundred and fifty thousand dollars. I can lend you fifty thousand dollars at the bank rate of interest, but that can be deferred. The bank will give you the rest. Get the place built, get it started. Pay off the debt. Its very simple. Fifty thousand dollars should get you to lock-up stage. By then you can re-finance. Its all quite simple really.”

“What is lock-up”, asked Adam.
“Lock-up is when you get the building to that point where the building envelope is complete. That’s the roof, the wall, the doors and the windows; they are secured. The foundations are obviously there with the floors. But that’s about it. You then have to finish the rest of the construction.”

“Will you get me the fifty thousand dollars?”

“Yes, but only on the proviso you pay bank interest rates as soon as you can possibly afford it and no later than a year after the place is built. Anyway with the re-finance you might be able to re-finance the whole lot and give me back my fifty thousand”.

“Well thanks for that”, said Adam.

“That’s one of the things that us capitalists can do that poofters can’t”, his father said sarcastically.

Adam had to wear it. Adam was a little unsure of his father’s generosity, or apparent generosity. He didn’t wish to compromise his own situation nor his dream so he reluctantly accepted the offer. This was done on a handshake. It was a very difficult handshake for Adam.

“I’ll draw the money down tomorrow”, his father said. “The money will be put directly into your new account.”

“What new account” said Adam.

“The new account I’ll open for you at my branch with Jeff keeping an eye on it.”

“Well I guess that’s ok”, Adam said reluctantly.

“No its not just ok. It has to be that way. Us capitalists like to keep an eye on things. Don’t stuff this up Adam”, his father said. “Just don’t stuff this one up. This will make or break you. Mark my words.”

Adam got back into his car and as soon as the factory was out of sight he placed his hand on the horn of the car and beeped it hysterically. “I’m on my way”, he screamed. “I’m on my way.”

All he had to do now was to find a builder. That was when all hell broke loose.

Gestation, birth and death
Doing business with the Scotsman was like being in purgatory. He said he was from Glasgow and Adam didn’t know enough about accents to know whether he was lying or not. But later he was to find out that he lied most of the time anyway. He weighed close to twenty stone. All of it was muscle. It was reported that he could easily pick up a whole bag of cement in one hand and tear it open with the other.

He was introduced by his father in the first place which should have sent a message. But Adam in his enthusiasm hadn’t paid too much notice. He was just keen to get on with the job. Everything had moved very quickly. The bank had put the money into place almost immediately. The land was purchased. The plans were submitted to Council and through the auspices of his father’s factory and certain behind-the-scenes-deals that took place, the development application was approved in a matter of days. This was one thing that Adam hadn’t expected. However there were certain conditions. The giant Scot was not intimidated by anything. “The conditions boy are a wee bit annoying. But nothing that we can’t fookin’ overcome. Just a bit of this”, the giant Scot said. He pointed a finger to his head indicating that a brain must lay inside although Adam did have his misgivings. And things from that point got progressively worse.

Foundations were supposed to be laid in February but, once the builder had received a ten thousand dollar deposit, “just for good keeping” the Scot had said, work seemed to come to a halt.

The labourers dug out the trenches for the foundations for the main part of the building. They sat for hours waiting for the concreters to arrive to pour the slab. Then the rain clouds appeared. Rain of monsoonal proportions flooded the area and washed out the trenches that the labourers had dug. The trenches had to be dug again. Then half of the concrete was poured and the other half wasn’t. No-one knew really why. Then the rain appeared again at the same time as the second half of the concrete was being poured. It washed it all away. The trenches had to be dug out again, concrete slurry cleared out and the concrete re-poured.

“All this is going to cost a wee bit more Adam”, the Scot said. “But money is no object is it.”
He seemed a bit threatening. Adam considered that this was only a few thousand dollars at this stage. Nothing to worry about.

Then came the matter of the builder’s appointment. He wanted to be called a Project Manager and be paid a flat fee. But for that flat fee he would do the very best in assuring that all of the sub-contractors put in very competitive prices and he would purchase all material at a very low cost. The second mistake.

The Scotsman, called Phil, managed to run up an enormous amount of money in terms of materials and deposits paid on certain things such as window frames and doors. But none of the materials were appearing. He kept on drawing his quite significant weekly fee. “Just to keep the wee job ticking over”, Phil would say.

Adam’s school days were incredibly short. He would arrive one minute before class would start and leave one minute after classes finished. All his lesson preparation was done at the school. Lunchtimes were full of phone calls. No other staff members could get near the telephone. He was back on site at 4.30 in the afternoon insisting that the workers work overtime. Nobody did. He would generally clean up the site and make a list of things that were wrong. The sort of thing he had hoped the project manager would attend to. He would be there at six thirty in the morning for an hour and a half before leaving for school. This was to ensure that the builders who promised to always be on time arrived on time. They never did.

The thing of greatest interest to Adam was the Friday afternoon BBQ’s. He had been assured by the builder, now called project manager, that the workers on the site would have their morale heightened to great levels, (and he considered it his job to motivate them) if they could have a BBQ lunch late (that is 1pm) on a Friday afternoon and then drink beer until they left at around 3pm. Adam didn’t know any different. He didn’t think of questioning this approach. By the time he arrived there on a Friday afternoon at around 4pm there were a lot of empty beer bottles but no workers in sight. There was always a smouldering fire with piles of immolated sausages strewn around the fireplace.

Things got even worse.

The Council intervened.
“I’ve got some grand news for ya mate. We can save a lot of money. All we have to do is change the double brick construction to brick veneer. Leave the ground floor as a concrete slab but change the first floor to a timber structure”. Phil chanted these words victoriously.

Adam was less then enthusiastic.

“What’s the point.”

“We can save tens of thousands, probably fifty thousand dollars on the deal. Give me half of the saving and we are all winners.”

Adam still wasn’t convinced. He let out a deep sigh.

“Its all easy on paper. I’m worried about the acoustic side of it. Is there enough sound insulation using gyprock? The last thing I want is for people staying at the retreat to hear their neighbours fart.”

“Don’t worry about a thing laddie”, said Phil. “I’ll check with Council. I’ve even drawn up a new set of drawings. Obviously they need to be approved; but they’ll approve them over the phone anyway. It seems that we just need to put domestic gyprocking in and we are ok. What we will do is put rock wool between the gyprock walls. That will be enough for sound insulation. In fact I know that its better than double brick.”

The builder seemed to know what he was talking about. Adam relented.

“Ok, go ahead. But make sure you put up a proposal indicating what the full cost would be in double brick and what the cost savings will be with timber floors and gyrock walls. Obviously I can’t reimburse you anything until the building is completed and the savings are demonstrated.”

“Not a problem laddie”, said the Scot.

Again, all hell broke loose. The council maintained, when the plasterer had half finished the gyprock walls, under no circumstances had they agreed to domestic rather than commercial construction. Truck loads of extra gyrock had to be ordered. The existing gyprock had to be taken down and replaced with extra thick material. Double layers had to be put on each wall. The cost of the rock wall insulation going in-between the rooms was extremely expensive. And there was the problem with the wooden floors. Obviously a wooden floor was cheaper to put in than a concrete slab. It was much quicker in many respects too and more flexible for putting in services. But the problem was sound insulation. An acoustic engineer was brought in. He
indicated that for sound not to travel down there shouldn’t be much in the way of nailing of the floorboards to the floor. This was all to do with vibration evidently traveling through the nails. This had to be minimal. Also there had to a layer of foam between the floorboards and the joists. That wasn’t too much of a problem. The rubber foam was easy to come by. But the glue to hold the foam in place between the floorboards and the rafters actually dissolved the foam. That didn’t daunt the Scotsman. He ignored it. He made sure that all the floorboards were in place before an inspection was done by the acoustic engineer. He would issue a certificate and declare the place sufficiently soundproof. Adam was convinced that something was going on between the acoustic engineer, selected by the Scotsman and the Scotsman himself. But he could never prove it.

The council was less than impressed again. They suddenly decided that the new design, the brick veneer instead of double brick, contravened a fire regulation. It appeared that when it was built of double brick, for bushfire reasons the height could be higher than when it was brick veneer with a wooden floor. In affect there could not be anymore than two floors if it were of a domestic type construction. But now because there was a sizeable basement with a retreat area, incorporating the laundry, toilets and other facilities, the building was too high. Of course this was only pointed out by the council towards the end of construction. So the carparking area which had originally been flat now had to be built up two or so metres. This necessitated construction of retaining walls. The retaining walls were supposed to be designed by a qualified structural engineer. Of course they weren’t. The canny Scotsman was able to do that (so he said). The retaining walls were constructed. The carpark was constructed. Two of the retaining walls immediately collapsed and had to be re-built. This caused more cost.

Because of the carpark being reconstructed and elevated, the area originally at ground level, was now a subterranean basement. This posed a leaking problem. The builder had not put down sufficient materials to waterproof this part of the building. So the whole area outside of the building had to be excavated again and re-lined. Adam could feel his sanity slowly slipping away.
Finally after much discussion the council was convinced that the height of the building was just within the tolerances. But then another issue arose.

The Scotsman had insufficiently supervised the bricklayers when they were constructing the basement area. They had put in three courses too many of bricks. He had noticed this and had forgotten to tell the bricklayers to remove the three too many courses of bricks. It provided good ceiling height for the basement area, which was also to be used as a breakout area for the potential retreat members. However when the final trusses were being put into place for the roof structure it was seen that the area above the new basement was approximately a foot higher on the roof line than the rest of the roof line.

The Scotsman looked at Adam. Adam was looking at the roofline where the trusses suddenly rose a foot or 30 centimetres in the new metric measurements.

“What the fuck are we going to do about that Mr builder and genius?”

“There is no need to get rude laddie”, said Phil. “If you look at it with an open mind you can see how we can make an architectural feature of that sudden rise in the roofline. We will put flashings all around it to weather proof it. The step up will become a prominent but positive feature.”

“What else can we do”, said Adam, “apart from tearing down the entire building and starting again.”

“There’s no need to sound so desperate”, said Phil. “trust me on this one. This will work.”

When the building was finally completed there was some merit in the change of roofline from an aesthetic point of view, but not much. The problem was with leakage. The flashings on one side were twelve inches wide but on the other side of the gable on the roof they were only six to eight inches wide. On a windy day rain blew under the flashing, dribbled through the ceiling cavity onto the gyprock ceiling, down the walls in the bedrooms, bubbling the paint and causing a significant amount of damage. All that happened before final completion of the project.

It was getting close to completion and the council and the building inspectors were satisfied to a reasonable degree. They weren’t worried about water penetrating the building. That was more a commercial rather than a
health problem, or so it seemed. They did insist however that the gyprock that had already been fixed to the external walls facing the courtyards had to have rock wool put between the brick veneer and the gyrock itself. That had not been mentioned earlier. Another major job and another major cost. Adam’s patience was being pushed as far, if not further, than the availability of finance to rectify all these problems.

Finally Adam snapped when two major roof components of the building nearly collapsed and one wall had to be demolished.

There had been an agreement between Adam and the builder to change the single level conference room and the single level dining room from a hip-joint gable to a forty five degree gable with raked ceilings. In the case of the conference room there were to be six dormers and in the case of the dining room a glass fascia. In the latter case this improved lighting and the view tremendously. In the case of the conference room not only were the acoustics and the ambient temperature of the room improved but the overall aesthetics were enhanced. There didn’t seem to be any problem in the changes. The builder was convinced that he had sufficient structural expertise to be able to accommodate this at no extra cost. In fact he said there could be savings.

Adam was at school when he received the phone call. It was an urgent call from the plumber.

“This is the plumber Adam. I don’t want to be a dobber but you should know that the dining room walls are just about to collapse. It looks as though the whole roof is caving in. Also the same looks as though its going to happen with the conference room. I think you need to get a proper structural engineer to have a look at it.”

Adam panicked. He left the school immediately telling everybody that he was violently ill. He raced to Basket Range to see what was going on. He saw the builder was there and had hastily put into place extra scaffolding which had sometime ago been dismantled.

“What the hell is going on” said Adam.

The builder looked non-plussed. “Nothing to worry about old boy. Everything is perfectly under control. Just a wee problem with structural elements.”
“I want a structural engineer in straight away”, said Adam.

“I am the structural engineer”, said the Scotsman.

“Since when”, challenged Adam. “You’re a draftsman aren’t you. Best qualification isn’t it.”

“Well I did some study in Scotland and I’m as good as any structural engineer around the place.”

“Just get me a fuckin’ proper qualified Australian structural engineer”, demanded Adam.

The builder sulked. He saunted off to his office and made several phone calls. Late that afternoon a qualified engineer arrived.

Adam walked over to where the carpenter, builder and structural engineer were gathered.

Bob the carpenter was defending himself. “Look the only reason there is one bolt in each of the pair of the trusses is because that’s what the builder told me to do. There had been a change in design. These are really strong trusses. Not the ones that were originally ordered. I have no argument with the strength of the trusses. Its just the way a single bolt has been put in at the apex. The trusses act like a pair of scissors. There is very little support between the bottom of the truss and the top of the wall joists. What’s happening is that the weight of the tiles, and this is a very heavy tiled roof, is pushing the trusses down like scissors, opening the scissors blades. This in turn is pushing against the walls and the walls are being forced out. If you hadn’t put that scaffolding there the walls would’ve collapsed.”

Phil piped in “Well see I told you. I know a bit about structures myself. If I hadn’t put the scaffolding there the whole thing would have collapsed, the roof, the walls, the lot.”

“Oh just terrific”, said Adam. “But it wouldn’t have happened at all if somebody had had the sense to get the structural engineer in the first place or at least put a minimum of two bolts at the apex of the trusses. The whole thing is a disaster.”

“It can be fairly easily rectified”, said the engineer, “But that wall over there has to be demolished.”
Adam’s heart sunk. The builder was being paid a professional fee only. All costs of materials and labour had to be absorbed by Adam. He knew this was another extra cost for him; and a big one.

“Yes that whole brick wall has to be knocked down and re-built. Its too late to save it. It has been completely distorted. Its now unsafe.”

The structural engineer went away and returned several days later after more bolts had been put into the apex and the walls had been strengthened on both the conference and dining room. He was satisfied with the work and passed a certificate over to Adam indicating that the design was now structurally sound.

“That cost you a bit didn’t it”, said the engineer.

“Yes like many other things on the project.” Adam paused, and added listlessly, “I overheard one of the other carpenters on the site the other day asking where Jack was. I asked him who the hell is Jack? There is no Jack on site. He was a funny little prick and said to me. No this is the house that Jack built isn’t it, where’s Jack?

I felt like tossing him off the site but it wasn’t his fault. It was that fuckin’ builder.”

The drama of the walls was sufficient for the builder to take flight. He had originally been offered sixty thousand dollars to supervise the whole project. He had insisted that it would only take twelve months to build and then demanded, with menace, one thousand two hundred dollars per week. This he had been paid. It was November and he had been paid forty-eight thousand dollars plus ten thousand dollars deposit. Fifty-eight thousand dollars! Adam knew that something was going to break. He called the builder over to the corner of the site and said to him.

“The building still has a long way to go. We’re just at lock up. What’s to say you won’t piss off on me now. You’ve only got a few thousand owing. The project is several weeks behind time and I blame you for that.”

“Don’t worry Adam. You have my word as a Scotsman.”

He offered his hand. Adam reluctantly shook it.

“I hope to hell you are a man of honour Phil”, he said.
“Don’t worry laddie”, retorted Phil. “I am a man of honour. We are all Masons you know.” He looked around with some grandeur at the many people working on the site.

“Oh my God”, thought Adam. Not another club.

As it turned out Phil, project manager and builder extraordinaire, handed in his resignation that week. Adam was left to supervise the rest of the construction himself. He took leave from school from December to the following April. He only actually missed one term. The building was completed.

It was rough around the edges in terms of landscaping and a few of the construction details. For example the painter who had been employed by Phil had only given one coat of seal and varnish to the external doors and windows. The window and door frames had been left exposed to the summer sun and occasional rain and this had caused them all to warp. The one layer of varnish and seal had been put on far too late. The whole lot, within a few weeks, had to be re-sanded and re-painted. There was not much that could be done about the warping. Adds a bit of character; makes it look older; one of the workers had commented. Adam didn’t know if he was taking the piss or serious.

But the building did get completed.

Adam started to worry about re-financing. At lock-up he had tried the bank for re-finance. They weren’t interested. He still owed his father fifty thousand dollars and the bank at this stage two hundred and fifty thousand dollars. He also had to secure a second mortgage, which he was just able to do through the auspices of a few friends. This was another one hundred and fifty thousand dollars. But that wasn’t the end. When it came to the final fit-out with the kitchen equipment and the laundry equipment he had to personally guarantee the lease. The lease was for fifty thousand dollars. This also included the audio visual equipment for the conference room. There were overhead projectors, whiteboards, 35mm slide projectors, and he had invested in one 16mm movie projector.

He knew the financial situation was very tight.

He had also been concerned about the bushfires. There had been small outbreaks every now and then. There was something ominous about the
way they flicked in and out of his consciousness. One morning when he arrived very early there was a red glow on the western horizon. He knew this was some sort of sign. He didn’t think too much about it but was losing confidence rapidly.

There was no grand opening to the Thinking Factory. Clients started to slowly trickle in, but not at the rate he required to get a return on his investment. There was no possibility of paying back his father’s fifty thousand dollars in the foreseeable future.

One evening he settled back, luxuriating in the courtyard looking down the valley. It was a beautiful view. The Thinking Factory was in a perfect location. The themes worked; Freud, Mozart, Einstein and Da Vinci. The clients loved the place. The problem was there wasn’t enough of them and the revenue that was being raised didn’t even make a dent in the money he owed.

He thought back to some of the disasters associated with the construction. The appointment of the builder was the worst one. He had no coordination skills. He had no ability to effectively interface the various trades to minimise duplication of work. Adam had offered on several occasions to buy some beer and to even pay them for half a day’s work if all the tradesman came together and had a brainstorming session to work out the most effective ways to help each other. The Scotsman had just laughed at him.

“You’ve got about as much idea of building as I have of school teaching”, he said scornfully to Adam. Adam gave up on the coordination idea. Communication was equally as bad. The builder rarely got his communications correct. There was so much duplication in the ordering of material. He suspected that the Scotsman was ordering far too much and some of these materials were finding themselves at other building sites he was working on.

Another disaster struck when some water damage occurred on the premise during the time of construction. This seemed an opportunity for a legitimate insurance claim. He rang the insurance company to find out what could be done. This was at a time bushfires were surrounding the place.
“What do you mean its not insured. I paid out the money to the builder nine months ago.”

The reply he received was incredibly daunting. It seemed the mad Scot had set up a monthly automatic payment for the insurance out of his bank account. After three months the payments had ceased. The place hadn’t been insured since then.

“You mean the building has not been insured for over six months and here I am standing in a ring of bushfires. What does it mean?”

“It means if your building is damaged in anyway there is no insurance cover.” The person at the other end of the telephone line hung up.

Adam immediately set about rectifying this situation, pushing his father for another three thousand dollars to cover the insurance premium for twelve months.

“You really are a silly prick Adam”, said his father. “Things like insurance should have been checked every couple of months or so.”

“Who’d think of that?”, said Adam.

“Any self respecting capitalist who wants to protect his interests and his arse”, said his father scornfully.

Finally in September 1972 the blackest day of his life crashed down upon him. He was twenty-five years of age. The bank called and suggested he had better start paying back principal as well as interest.

Adam immediately called the bank and said it just wasn’t possible.

“Jeff”, he said. “I can only just make the interest-only component of this. I have not paid back my father. No-one is interested in re-financing. Things are not going too well.”

“Don’t worry about it. We will look after you” was the promise.

A week later Adam received a phone call from the bank. He immediately went to see Jeff.

“Perhaps I have over-stepped the situation here”, said Jeff. “It appears you are trading insolvently. The bank is about to appoint a receiver. I am not to talk to you anymore. You are to deal directly with the head of credit in Adelaide.” The statement was as tense and emotionless as one would expect at a firing squad pre-brief.
Adam had been stung into silence. He didn’t say anything to the bank manager. He stood up, looked at the manager glumly and walked out. At twenty-five his business had been placed into receivership. He was at a complete loss as to what to do.

Adam made an appointment to speak again confidentially with his father’s accountant. He didn’t know any other accountants. He realised that the confidentiality would be compromised the second he walked out of the office.

“What do I do”, said Adam.

Kevin looked at him keenly. “You’re trading insolvently. The bank has appointed a receiver. There is nothing you can do. How much do you owe?”

“Nearly seven hundred thousand dollars.”

“Shit”, said Kevin. “What other debts do you have”.

Adam looked vacantly at the ceiling. “A bit of money owing on the car. I don’t own the apartment. That’s about all. I don’t have any credit cards. Although that seems to be the in-thing these days doesn’t it. No, that’s about it.”

“How much do you get paid?”

“You mean as a school teacher? Very little. It was the money from the centre that was going to pay its way plus the money I got from my father and the bank of course.”

“You’ve got two choices. There is a fairly recent change to the bankruptcy laws. If you go bankrupt now you won’t owe anybody anything eventually. However your salary will be capped for three years. You can’t hold a passport; I re-phrase that. If they ask you to surrender your passport they’ll keep it. You won’t be able to have any credit above a hundred dollars. I think. You won’t be able to be a director of a company.”

“None of those things seem to be too hard. The maximum salary. How much is that?”, queried Adam.

“About seven to eight thousand dollars a year.”

“Well that’s more than I earn now so that’s not going to hurt. I’m not particularly worried about the passport. I don’t care if I’m never a director of a company again. So why wouldn’t I want to go bankrupt.”
“I don’t know”, said Kevin. “That’s up to you. There is another option. You put up a certain amount of money. Say to the creditors that’s all you can put up and that’s it.”

“Well where will I find any money.”

“Well the receiver has been appointed on the place. What will happen is that they will try to sell the property at a reasonable price. Let’s say they get five hundred thousand dollars for it. It might be more. You reckon its worth eight hundred thousand dollars. But it will be a fire sale. Once people know a receiver has been appointed they won’t pay or offer too much.”

“I’ll still be left short over two hundred thousand dollars.” Adam said.

“Well let’s say your father lends you twenty thousand dollars and you pay that back eventually. That’s the only money that you will be in debt to anyone for. You offer the twenty thousand dollars to all the creditors. That means you will be paying them around about ten cents in the dollar. Chances are they will accept it. You won’t go into bankruptcy”.

“Why would they accept ten cents in the dollar?”

“Because if you go bankrupt, and in your case you really have nothing much to lose, they get absolutely nothing. Ten cents in the dollar is better than zero in the dollar.”

“Is it that easy?”, asked Adam.

“Yes its. But you have got to have some money to put on the table. How much have you got in the bank?”

“About seventy five cents”, said Adam. “I don’t have any money”.

“Well if that’s the situation Adam I suggest you think about it.”

Adam nodded. He looked at Kevin. “Thanks for your time and advice Kevin. Please keep it from my father if you can.”

“That’s not as easy as you think”, said Kevin, “But I’ll try.” He phoned Peter as soon as Adam left.

Adam rang his father that evening and explained what had happened.

“Thanks for losing my fuckin fifty thousand dollars you prick”, said his father. “And now you are asking me for another twenty thousand dollars. Go to hell.”

That evening, coming close to the New Year Adam sat in the courtyard of the Thinking Factory. Bankruptcy it will be. For three years. Why don’t I
just disappear. Perhaps I can teach. Perhaps I should drink wine and write poetry and live on the coast.

Adam moved closer to the escarpment. There was a majestic view over the valley and towards Adelaide. Small tentacles of smoke unfurled in the air. Random pockets of bushfire had broken out, waiting in the simmering heat to explode into a furnace of revenge. He thought he heard a noise in the bush. He moved forward a little further. His ankle twisted as he lost his footing in the gloom. He tumbled down the soft lawn boundary of the property and rolled towards the surrounding bush. As he did he remembered only two years ago that he had fought violently to stop slipping down the slopes of Waterfall Gully while embracing Mary. Two years of desperate hard work. A fleeting thought shot through his mind. Two years of almost complete sexual abstinence. What a bloody waste of life.
CHAPTER SIX

First Great Adventure

Escape from school

Adam had celebrated alone the third anniversary of his bankruptcy and he simultaneously secured his passport from the Office of Public Trustees. Days before he had moved out of his rented apartment into a cheap and barely habitable room at the back of his local pub in North Adelaide. It was cosy and quiet, until the 10pm closing. After that there was always an hour or so of crashing buckets, clattering rubbish bins and thumping kegs being moved around. This cacophony was punctuated by the occasional human groan of intoxicated incoherence or the retching staccato of the temporarily poisoned heaving their dinner into the gutter outside. But it gave him a haven and a place for preparing his new adventure.

Nearly a month earlier he had resigned from teaching. Freedom had been achieved. He had more than worked through his three-year teaching bond. At great expense to soul, body and bank account he had learnt some of the hard lessons of crass commerce. Never again would he be tempted to enter the squalored world of entrepreneurship. He would live a life of simplicity and travel. He would avoid the acquisition of material possessions. He had sold virtually all his worldly goods, some at ridiculously low prices. His record player and substantial number of jazz records really did go for a
‘song’. On this particular evening, although he had reason to celebrate, he managed without difficulty to avoid the temptations of drinking in the bar throbbing below his feet. Many of his friends from university were there; but the financial imperative now was to conserve all the money he could. He lay on the rather narrow and lumpy bed wondering how old the mattress was. His curiosity wasn’t strong enough to drive him to lift the mattress cover and analyse the stains there. The mattress must have seen thousands of acts of degradation over the years. It was that sort of pub.

He rolled onto his stomach and pounded the two pillows that were uncomfortably supporting his head like two boney hands clasped in anticipation of a good catch. He flipped again onto his back. The ceiling was tinted with mildew and nicotine stains. In a couple of days he would be leaving Adelaide forever. He was going to start off by train to Sydney and then onto Europe by plane. He was still in his twenties, and a discharged bankrupt. It was time to make his mark on the world. He thought back over the last three years of perseverance. There had been a degree of frustration at his inability to move out of the school system because of the bankruptcy constraints. But this time had been filled with entertaining incidents.

There had been some happiness and contentment in selecting primary teaching. The interaction with the students was very rewarding. Some things had worked out rather well. On the day he left he realised how popular he had been with a few of the teachers and particularly with the students.

“If you ever return Adam”, said an older female teacher that had formed a bit of a friendship with him, “you’ll have a bunch of a hundred or so revolutionaries that would go anywhere with you. You’ve impressed them, so much!”

“That’s hard to believe”, Adam replied. “But I guess anything would be more exciting than some of the careers those poor kids are headed for, considering the quality of the teaching they’ll be getting for the rest of their childhood and adolescence.” She had nodded in tacit agreement.

Adam had been very successful in sustaining the interest of the eight to ten year olds, especially by putting some fun into an education syllabus that was inherently dull and boring. He had stumbled upon the notion of breaking up his classes into groups of six students. He allocated a variety of tasks to
be undertaken by the groups. This worked extremely well. The children were clearly deriving benefits from the interaction they gained by being able to chat amongst themselves whenever he felt it was going to help them discover and learn new things. He tried to encourage an open situation so the children could ask questions of each other and especially him whenever they liked. Occasionally he did superimpose some discipline in terms of quiet periods for reflection for writing. As a whole his classroom had a high level of energy; this from children who in the main come for families who put little stock in intellectual achievement or excitement.

But getting children interested and involved in studying English language and doing stand-up presentations was particularly difficult. He decided to create a television production studio. This was to be the first in South Australia. Money was raised in a variety of ways. Most of it came by showing feature films at the school that were currently in cinemas, but on a 16mm projector at a fraction of the normal cost of a ticket. He was able to do this by borrowing the promotional films at no charge from some film distributors he had befriended.

The scheme to set up the television studio was nearly scuttled when some of the teachers banded together. They tried to hijack the special bank account he had been zealously growing over a year or so. As an experiment these teachers had been asked to work to individual budgets for their own classroom materials. They overspent this in a remarkably short period. With no money left Adam’s special account was like a honey pot to them. Fortunately the headmaster of the school supported what Adam did, warned him, gave him a half-day to withdraw the money from the special account and buy the television equipment he had planned to purchase all along. It was a simple affair. Black and white video camera, video recorder, tripod and some editing equipment. But it was all worth it. Children played the role of news broadcasters, television interviewers and journalists. This helped enormously in building their self-confidence and their verbal skills.

On one occasion Adam very nearly let his young team down. But the situation was salvaged by a simple expediency. It was unfortunate, but opportunistic. A light plane had crashed near the school in the hills. Several people had been killed. He had promised the children that they were to carry
their cameras and equipment to the crash site; take photographs and then report the incident in the local classroom paper. This he thought was an excellent exercise for them in English expression. Unfortunately when he took the children to the site they were turned away by the police. A small mistake that was able to be overcome. He promised the children that, notwithstanding what had happened here, he would make another plane crash for them so they could take photographs as originally planned.

For the next few weeks the class secretly built a model plane. And what a wondrous plane it was. Six feet wing span. Brilliant red. Bulbous nose with a little plastic pilot inside. To that plane Adam was able to attach some rather large fireworks available in those days (before the celebrations of November the 5th were cancelled because of bushfires, blown up letter boxes and grievous wounds to boys who experimented). In addition he was using high-octane petrol in a sportscar he was still driving, (bankrupt or not). He waited one day until the headmaster left the school and then took a small container of the explosive fuel drained from his car. He climbed to the top of the roof of the building, poured the fuel over the plane and the fireworks, lit the weird wooden bird and threw it off the top of the building. Children were waiting on the ground with their cameras to take the most spectacular of shots. The aircraft plummeted to the ground and exploded into a ball of flame. It was all very effective. Other teachers were looking out of the windows. Horrified. They were totally convinced Adam has lost his sanity and it would be only a matter of days before he would be sacked. This never happened. The headmaster was a champion in terms of maintaining the creative outlets for children.

Adam twisted his hands behind his head on the lumpy pillow. A smirk spread across his face. There were some highlights.

However this three-year vacuum in Adam’s life was one of obscurity. He had avoided the frequent sojourn to the pubs he had enjoyed prior to bankruptcy. His mission was clear. Get out of bankruptcy. Get out of Adelaide. Make a mark.

It was on a whim he cancelled the train to Sydney and changed it to a bus trip. The bus was quicker than the train; although perhaps not quite so salubrious in terms of moving around, and especially going to the lavatory.
However he was happy with the cost savings and that most of the travelling was at night. Also he was travelling so light. Just two crammed suitcases, small ones at that. The buses space constraints didn't affect him at all. He knew soon he would be spending a lot of time in an aircraft with even less space. So he considered this reasonable. Just thinking of the escape made him tingle with excitement. Kolditz Castle's desperate second world war prisoner-escapees became a frequent theme of his dreams.

**Flight to fame**

Adam's first flight seemed to be endless. He did a lot of sleeping but there were a lot of disruptions. The departure from Sydney went smoothly enough. The arrival at Singapore was sufficiently eventful to be considered interesting, if not exciting. It was exposure to a new culture. Not what he would call exotic. (Some of the pubs in Adelaide were more bizarre). But it was different. Short haircuts were derigeur. But then, he avoided any controversy at the airport because his hair was short, not mopish as Fabien insisted. He looked with some amazement as some of his fellow passengers were herded into an airport barber for an unceremonious shearing.

However, the journey from then on had a profound effect. Welling up in him was a desire to sustain a high level of energy and interest in everything he did from that awful nadir in his life. A chapter to be forgotten was just closing.

The plane arrived in Bombay in stifling heat. Initially passengers weren't allowed off the plane and there was no air conditioning. It was unbearable. After half and hour or so they were allowed to disembark. Adam was fiercely dehydrated. He went into a lavatory that was significantly worse than the worst of lavatories in Adelaide (and that was bad). Without thinking, to hydrate his totally parched body, he wrapped his lips around a tap which thrust itself provocatively out of a cracked and mildewed wall. Before he realised what he had done he'd gulped down several pints of warm water. Fellow passengers around him screamed at him to stop. They promised he would die within twenty-four hours of some unholy disease carried by the water. This never happened. Adam didn't even get stomach ache. He put it
down to the fact his stomach had been so well conditioned by the water he had grown up with in Adelaide that he had total immunity to the worst water in the world. Ah, Adelaide water. A glass of the turbid stuff with wriggling life forms. You eat it, not drink it!

But his episode wasn’t over. On the way back to the departure gate he saw a queue lining up for cans of beer. It was a relatively small queue so he thought he might as well join and drink a beer (he was already thirsty again). He considered a beer would be appropriately pasteurised and wouldn’t carry any germs.

After his longer than anticipated wait in the queue because there was so much bickering, he asked for a beer. The beer was taken from a shelf in a room where the temperature must have been over a hundred degrees. The top was taken off and given to him. The beer was warm and he refused to accept it. He walked off. He thought nothing of it again until he was just about to board the plane. A squad of policeman carrying machine guns beckoned him to one side. The hysterical storeowner was pointing at him very excitedly. He thought it prudent to give the man an Australian dollar. The international incident was over and he was allowed to board the plane. A very expensive way of purchasing undrinkable beer!

The only other stop on the way to London was Bahrain. Little occurred apart from a brief encounter. This affected Adam profoundly some years later. He met a garrulous young man from Moscow. For whatever reasons he, a communist he supposed, didn’t seem to be constrained in his travel. But that was never explained to Adam. What he did do was encourage Adam to visit the Soviet Union.

“I thought it would be impossible for someone like myself, an Australian, to travel to the Soviet Union” he said.

“We embrace our comrades from the south of the equator anytime they wish to make the effort and come and join us. Please consider it.”

Indeed Adam did.

Adam’s arrival at Heathrow was heralded by confusion and noise. Babies were screaming. People of many different nationalities were shouting at each other and the English as usual were whinging, loudly. Bags were crashing off the carousel. Tired and impatient passengers scrambled to
gather their belongings. Adam’s two bags tumbled into view and with a bit of
deft footwork he was able to salvage them before some frenetic Greek or
Italian women (he wasn’t sure) walked over the top of him. They were short
ladies with quite prominent beards. He didn’t feel strong enough to confront
them.

The train trip from the terminal to London was only memorable because of
the inhuman crushing, the battery-chicken environment. He’d arrived at
the time of the morning when commuters who lived near the airport were on
their way to work. The sole reason for his existence now was to protect his
bag from theft or destruction. Destruction would have been assured by the
crowds kicking his bag into the gap between the train and the platform thus
ensuring complete mutilation by the train wheels as it headed off to its next
station.

When he arrived at Russell Square he set about trying to find his hotel
room. After an hour and half of wandering he found it on the side of
Taverstock Square not Russell Square where he had originally been advised
to look.

The room was about the same quality, (you might say squalor), as the
one he had left behind at the pub in Adelaide. The bathroom could only be
compared to the one he experienced in Bombay. He seriously hoped the
water quality was a little better. One day, he thought, people will sell bottled
water and make a fortune. Perhaps if I ever return to Australia I could tap into
one of those clean springs somewhere in the Great Dividing Range, possibly
near the Snowy Mountains, and mix it with a little bit of real lemon juice.
Create something special and inexpensive for those of discerning taste. Ah,
fresh, clear water. Drinkable not edible.

Adam unpacked his belongings and stored them as neatly as he could
in the small cupboard. He showered and then was to spoil himself with a light
nap for a couple of hours. The nap of exhaustion lasted sixteen hours so he
woke around three o’clock in the morning of the next day. He fumbled and
fussed and prepared himself for his next adventure. A trip to High Wycombe.

Adam had always been fascinated by the exploits of Sir Francis
Dashwood, a person who was evidently responsible for the formation of the
Hell Fire Club. He had read that such illustrious characters as Benjamin
Franklin had been members. He wasn’t sure whether this was true. But he was determined to investigate. The train trip to High Wycombe was uneventful but did allow Adam to see the great disparity between the London areas and the encompassing greenbelt. There were depressing rows of houses miles upon mile that reminded him of a television program that he had inadvertently seen once or twice, ‘Coronation Street’. The depressing areas would open up into beautiful yet carefully manicured parks and fields with the occasional manor house strutting at the top of a hillock, towering down on the inferiority of those who would have to live in squalor some convenient miles away.

The Hell Fire Club, or its remains, were not a total disappointment. However the tower shaped like a phallus was nowhere to be seen. It was destroyed, it was reported, by fire; probably arson, by someone whose sensibilities were compromised by the Club’s values. He wandered through the labyrinth of tunnels and caves that evidently Sir Francis had hollowed out presumably in the shape of a woman’s womb with its internal organs. The one thing Adam would always remember was his almost incarceration in the underground chambers. It was a very quiet day and he did not realise he had to be back at the entrance of the caves by five pm. He arrived there shortly after to find the steel gates across the caves locked. Lights were still on but he momentarily fantasized he would be imprisoned there at least for the duration of the night. His vision of spending the night with the ghosts of a satanic cult was a trifle terrifying. Fortunately his frantic rattling of the gate attracted the attention of a less than impressed gateman. He was let out, with a scowl.

It was the trip back to London, back to the hotel at Taverstock Square that was to change Adam’s life. It was a fairly rapid trip. The carriage he was in was nowhere near capacity. An odd, but very English looking gentleman sat next to him. Adam knew immediately that he was one of those people who was going to talk. Not that he was confrontational. He was just a talker and for some reason had decided that Adam was going to be his target. The frequent raising of the eyebrows and a flicker of familiarity over the rim of his glasses was a give-away.
The tweed jacket with leather patches on the elbows told him that he was English, eccentric and probably academic. His grey eyebrows were as bushy as his hair. He was clean shaven and had horn rimmed glasses with very thick lenses. He was wearing a dark blue skivvy which neither matched the tweed jacket nor the green corduroy trousers he had on. Adam noticed he was wearing extremely scruffy suede boots. He clutched, almost too earnestly, a battered satchel that had one broken strap and one intact strap attached to a buckle. The handle he noticed, when he placed the satchel on his lap and clutched it tightly with his arms, was held together with some green electrical tape. The green tape looked as though it had been around as long as the satchel.

Without encouragement he looked sideways at Adam and said “Ah, young fellow well travelled are you?” There was an English-polite pause. “Lesthan, Dr Lesthan is my name. Welcome to England.”

Adam hadn’t uttered a word so he knew his accent couldn’t have been an indicator of a nationality other than English. He then realised that the back of his hands were significantly more tanned then Dr Lesthan. Before Adam could say anything Lesthan said, “Australian is my guess. A lot of you fellows coming over here now. Most end up as failed journalists or failed authors or both.”

“Yes, I’m Australian” said Adam. “Only just arrived. Not exactly sure what I am going to do. My name is Adam and my home is or at least used to be Adelaide in South Australia.” Adam looked askew at this unusual Dr Lesthan. He briefly considered this is exactly how Sir Francis Dashwood should have looked.

“I’m a lucky man. Trained as an engineer. Still work as an engineer. But made lots of investments. Wasn’t born into nobility or anything like that. Did go to a good school and university. You’ve probably heard of Oxford. Well that’s where I studied engineering. You might not have heard of Harrow. That’s where I went to school. One of those public or I think you call them private boys school.” He paused “I think you will find, what’s your name again oh Adam, that a lot of people are going to make a lot of money in the next few of years. Especially those who are entrepreneurs.”
“Anyway currently I work with a company called EC Hatkins. A bunch of engineers who work all over the world. Have several divisions operating through separate companies. There’s our normal civil engineering group who build highways and bridges, power stations all over the globe. There’s another division involved in nuclear engineering. They build nuclear power plants in places like Korea. Then there is our secret arm. Sorry can’t tell you much about that. Involves military projects. And then there’s R&D where I work.”

Adam was mildly interested in this monologue. But his recent experience with uncivil engineers clouded with bankruptcy gave him an uncomfortable feeling.

Dr Lesthan continued “On the first day of my job with R&D a quite bizarre thing happened. And this is what the company is like all the time. Lots of secret projects; lots of interesting projects; lots of intrigue. Anyway I walked into the office of my boss at R&D. (I am the boss now) and tripped over something in the floor. Looked at it. It was the top part of a safe that was embedded in the concrete floor. The chap I was reporting to waved it all aside.” ‘Oh that’, he said. ‘You have to be careful. We’ve got the secrets for the guidance system of the old Polaris missiles in there.’ Lesthan continued, “One of our mathematicians and one of our physicists were working on it. But one defected to Russia and then a couple of weeks later the other did too. Not to Russia though. To America. For the money you know. Between the two of them they had the combination to the safe. Short of blowing up the safe we couldn’t open it. Anyway the technology they were using was obsolete by the time they left so we didn’t bother. That’s the sort of stuff that happens around our headquarters.”

“Where’s that? Where’s your headquarters?”

Dr Lesthan looked out of the train window as they sped along towards London. “Its not a long way from here. Epson. We cover many acres and its a very paternalistic sort of place. You don’t know Epson?”

“No I don’t” jumped in Adam.

“Well if you don’t it was originally quite a small village. Quite cute I think you would call it. In an old English sort of way. Wattle and daub walls, thatched roofs, all that sort of stuff. But it has grown rapidly in the last few
years. A lot of that growth has been through us. Anyway its a nice
environment and easy enough to get to by rail. And what do you do?” the
Doctor asked after a pause.

“Well I was trained as a teacher. But I don’t think I’ll be going back to
that. And I’ve had one very successful failure as an entrepreneur.”

“A successful failure” queried the Doctor.

“Yes.” A howling success of a failure. I went bankrupt and I was only in
my mid twenties.

“Ah, well at least you tried. And you’re here. And you’re young. Its the
mid seventies. I can only say to you by the eighties things will really be
roaring along.”

“Huh”, protested Adam. “I am not likely to take the entrepreneurial
approach ever again. If the eighties roar along they will be roaring along
without me. Once bitten twice shy and all that sort of stuff.”

Lesthan peered out of the window again. “I disagree with you entirely
dear boy.”

“What I suggest to you young fellow is the following. Explore the world
or parts of it that interest you and then make money. Get the first part done
with as quickly as possible. Get it out of your system. Then make the money.
This is not to make you rich and irresponsible. Its to let you make the
decisions you want to make in life and not be constrained by lack of money.”

Some of the train travellers started ambling towards the front of the
train. The train slowed as it pulled into Paddington Station. The doctor thrust
his hand inside of his tweed jacket, fumbled around and drew out his wallet.
He spread it open and quickly slid a card from it and passed it to Adam.

“Here’s my business card. Keep a hold of it. When you’ve got some sort
of permanent residence, here or anywhere else, let me know how things are
going. Keep in contact.” With that he rose stiffly from his seat, grasped the
battered satchel under his arm and headed off with the rest of the herd
towards the front of the train.

Adam stayed in his seat. Already England had made an impact on him.
He realised heritage was important. When he was in Australia he was
surrounded by people who neither preserved the past nor planned for the
future. Some of the suburbs he had just flashed through represented squalor.
Although he was distanced by his role as a tourist he realised that he had seen the same sort of scenes before in Australia in the western suburbs of Adelaide. ‘Adelaide is a bastion of wharfie peasants’ he murmured to himself. He realised that Australia was being continually topped up with mediocrity and less. These were the broken peasant families of Europe.

**House in Decay**

Peter sat seething inside the rusting hulk of his factory that formed an exquisite backdrop to his growing depression. His enthusiasm had been lost and transmuted to a heartless greed that was endemic in the ageing process. He had to contend with obscene telephone calls, the dead cat that had been thrown into his swimming pool, the beer bottles that rattled on the roof at night. These irritations he considered to be a part of his noblesse oblige. These were the sordid aspects which he had half expected to come with his ascent. His exploitive, indecent approach to acquiring wealth brought with it an expense.

His business was listing badly. The workers were ‘ripping him off’ whenever they could. He didn’t seem to be able to control that. In many instances he couldn’t be bothered. Peter’s moral decline reflected the degeneration of the factory. His and Gaynor’s house was the venue for a continual ritual of depraved sensuality revolving around sex, food and acquisition.

Peter had formed an unhealthy relationship with the young wife of a worker he was patronising. His style was direct and ruthless. He bought favours from the husband by employing him in various remedial tasks around the factory because he couldn’t secure work of his own. He facilitated an unhealthy relationship between the young wife, Gaynor and the husband, creating a social dependence between them all.

His demise seemed at hand when a huge fire exploded in the centre of the largest of his three factories. Evidently a spark generated from a piece of equipment had ignited paint in the paint shop which never had been built with fire safety in mind. It was impossible to contain the fire as Peter had never bothered with such inane artefacts as fire fighting equipment. A gaggle of a
hundred or so workers rushed to the front of the building. There were no injuries. Peter and his group stood and watched the building burn. It quickly ignited the second building. The flames were so intense the first building effectively melted. The fire was so large and the smoke plume so vast it was visible from fifty miles away.

But Peter like the phoenix rose from the ashes. He quickly rebuilt the business on the site of the third plastic factory which had been preserved. To Peter this was all a sign of his immortality and his own divine rights. This confirmed that not nature, nor accident, nor friend nor foe could mitigate his success.

Shortly before his death he might have believed the tide of success was turning once more in his favour.

The man he was cuckolding committed suicide by sucking carbon monoxide through a hose to the exhaust pipe of his car. He had locked himself in his garage, turned on the engine, and dribbled his brain tissue out of his ears. His wife found his body many hours later and apparently felt some remorse. That remorse might have been intensified by the fact that her youngest son also learned about the affair. At the tender age of twelve he burnt the family house down and disappeared. His mother would still eat apples, nibbling them to the core as she bedded as many men as possible.

The perversity of Peter’s life came to a head several weeks later.

Exceeding the speed limit and driving insanely as only one would who has survived intact the catastrophe of war, his car spun out of control while trying to avoid an oncoming vehicle. The whole event took place one sunny morning close to the factory. Peter’s car slew into the other car at a very high speed. He survived the accident and was taken to hospital. However a blood clot travelled up through his veins from an unnoticed or undiagnosed impact bruise on his leg. The clot had taken over a week to move to its fatal position. His last words to Gaynor were “What a travesty. I survived the war. I survived so many things but this is the end!” He gasped for breath; he fell into unconsciousness and died.

Gaynor looked down at the end of another period of her life. Her mixture of feelings were a cauldron of relief and pain. There was a wave of loneliness. An intense and negative relationship over so many years. There
was a feeling of dread for the future. Gaynor had no experience in the ways of the factory. She already knew that Peter had foolishly, not maintained the insurances. Some had a deep suspicion Peter might have deliberately started the fire although Gaynor did not believe that. He didn’t gain financially from the disastrous events. What about Adam? He had initially hated the factories, their commercial crassness and the machinations of the entrepreneur class. Then he himself had succumbed and had failed! He had disappeared. Evidently he had once again renounced capitalism and all the materialist bits of life. She had heard he had left for England. She listened almost disinterestedly to the doctors as they tried to explain why he had looked healthy a week before and then suddenly relapsed.

“We couldn’t possibly have known”; one of them claimed. “Its one of those rare things. One of those freak accidents” another whispered.

“I am sure.” said Gaynor. “He is dead now. Nothing I do or you do will bring him back. I could sue for negligence; but then again you are all experts aren’t you.” She thought for a moment and then added, “after all you do bury your mistakes don’t you.” She thought she heard them snigger.

She walked out of the private hospital room. As she walked towards the hospital entrance she patted her handbag and felt the container of painkillers and sleeping tablets she had taken from Peter’s bedside. She knew they were only supposed to dispense the appropriate amount to Peter each night, but she also knew Peter’s exceptional ability to convince even professionals they were wrong and he was right. He administered his own drugs whenever he felt like it. He had built up quite a little stockpile under his mattress. He called it his ‘private dispensary’.

Gaynor took the short taxi drive back to the house. She wrote a brief letter to Adam explaining the situation and sent it to the hotel address he had given to her several weeks earlier, before he had left Sydney.

She looked wistfully at a photograph of Peter in military uniform taken over thirty years ago. She went to the liquor cabinet and removed a fairly cheap brand of brandy she liked. She grasped a tumbler and half filled it with brandy and then topped it up with dry ginger. She went to her handbag and removed the two containers of tablets and took out a dozen or so of each.
She never did have problems taking tablets and swallowed two or three at a time washing them back with the brandy and dry ginger.

Slowly at first and then more rapidly she felt an intense wave of fatigue wash over her. It was tinged with relief. Her last thought was that of the end of a dynasty. She had saved the world. Death was a release from a prison of paranoia.

**Some Penance**

Adam had quite literally taken the advice of Dr Lesthan. He negotiated the storing of one of his suitcases at the hotel. He briefly travelled around some of the more well known parts of England. Mostly he did this by rail. He decided to look into going to Europe and in particular the Soviet Union. He had remembered some of the encouraging words that had been given to him by the Russian he had met earlier in Bahrain. Warsaw was very impressive. The city was reconstructed along the lines of old plans that had some how or other survived the holocaust. He only spent a few days there ambling around, particularly impressed by the dogged resistance, obvious and palpable, to communism. One evening he thoroughly enjoyed himself drinking a very powerful Starka Vodka and dancing wildly, completely out of step, with a beautiful local Polish girl.

He returned briefly to England and to his hotel room. A few days later he took off on a bus tour further into the Soviet Union. He travelled on an organised tour with an official tourist guide. He was amazed how provocative his fellow passengers questions could be; clearly embarrassing the well trained Russian girl who acted as a guide. Adam didn’t feel the necessity to comment on some of the things he saw. There was a well rehearsed media lie about the Soviet Union and the enormous threat they posed to the West. In Minsk for example he had a room which was on the sixth floor of a hotel that externally looked like a concrete bunker. Inside wasn’t much better. On the sixth floor the technology of extrusion had either not been discovered or used through lack of funds. When he flushed his toilet he watched with interest as the faeces and small bits of toilet paper he was able to gather floated in an open drain across the bathroom floor and into a down pipe.
For the duration of the tour the bus driver followed one main road that was sealed. All the roads leading off the main road were unsealed. He realised with such a lack of infrastructure and an obvious inferior level of technology the Soviet Union couldn’t possibly pose the sorts of threats the Americans in particular were suggesting.

Moscow was a more exciting place. He stayed for a few days in an older hotel, probably eighteenth or nineteenth century construction, near St Basil’s Dome. The bedroom had high ceilings and enormous windows. He felt spoiled in this tatty opulence. The ritual of looking for hidden microphones he went through; although he didn’t really know what he was looking for. And this reminded him of a story where a visiting diplomat from England had thoroughly searched his first floor level room for the incriminating bugs. He had pulled back the carpet and spied a suspicious looking device screwed into the floor. Being an ex-boy scout he assiduously unscrewed eight rather long and large screws and removed the odd looking bug. He heard a distant thud and some muffled screams. Evidently he had disconnected the support bracket for the foyer chandelier.

He walked each day from his hotel across the river to the Hotel Rossia which was an almost new establishment, high-rise and modern. The problem was that the food was inedible and the water not drinkable. He survived on warm beer for breakfast, lunch and dinner to quench his thirst. The soup he was served for breakfast had lumps of bacon fat floating in it. He wondered about the future of the country in the coming years. However in Leningrad he had great fun. He was staying at the Hotel Astoria which he was told by the tourist guide was where Hitler would have celebrated his victory, if that city had fallen.

One evening Adam had walked back from a local restaurant the bus tour had called in on. It was touristy in the sense there was Cossack dancing, bottles of vodka placed in ice buckets like champagne and pounds and pounds of black caviar slopped in great dollops onto silver plates. Fortunately for him the other tourists didn’t like vodka or caviar. He estimated that night he ate five hundred pounds stirling worth of caviar and must have drunk two bottles of the most excellent vodka. Still retaining his wits he walked back with two other guests. As they walked along one side of the
Astoria hotel moving towards the entrance they noticed a series of steps leading to a basement area. It was evident from the lights and from the thumping music coming out and up that a discoteca of sorts was in place. Adam wished to be part of this. He went to the door and knocked. He asked in English if he could enter.

“Nyet”, said the burly Russian doorman, “nyet. No tourist here.” Adam was surprised that he spoke English.

Adam looked him straight in the eye and said “Comrade, comrade I have travelled so many miles. I am a good Adelaide socialist. And you won’t let me in.” The Russian doorman looked at Adam again, looked at his full beard and the furry Russian hat he had bought in Australia and the full length imitation suede coat he had on. “Comrade you are most welcome. Please come in. For a good socialist.” There were tears in his eyes.

The two other tourists with Adam tried to move in. “Nyet Nyet” said the doorman and closed the door heavily upon them. Only Adam was able to stay inside. So good was the night he had only faint recollections of it the next morning.

It was after this visit to the heart of the Soviet Union and his return to the hotel room in London he received the letter from his mother about his father’s death. The crash had occurred weeks ago and his death had occurred a fortnight ago. Adam considered that the funeral and all other arrangements would have already taken place. He was not in the least disposed to return to Australia for this small matter. It was then he noticed another letter from Australia. It was also addressed by his mother. But the letter enclosed was not in her handwriting. He couldn’t recognise the handwriting. It was terse.

Dear Adam, two weeks ago your mother took her own life shortly after the tragedy of your father’s death. We are still at a loss to understand what happened and why she did this. All that we found was a stack of half a dozen envelopes addressed to you.

We hope this brief letter, and our condolences, reach you at the address that she supplied. Regards, a friend.

Adam was at a complete loss as to who had sent this letter. “A friend, a friend. Who the hell would sign a letter like that, a friend.”
It was this rather than anything else that convinced him he needed to revisit Australia. The complicating factor was that he had already planned to go to Prague, Budapest and Belgrade. He quickly decided that no-one’s best interest would be served if he immediately returned. It seemed to be too late to be of any constructive use to the situation. So he decided to continue his trip but to return directly from Belgrade to Sydney to see if anything could be done.

Prague, despite the family trauma and the impending end of his Australian family, (as he had no brothers or sisters) was an exciting and stimulating place. Like Warsaw there was ebullience and a positive feeling for the future which he did not pick up in Novgorod or Minsk; nor St Petersburg not even Moscow. Here in Prague, like Warsaw, the population knew that the wait was going to be worth it. That sooner or later communism would go and that a more liberated way of life would follow.

On the morning after his arrival in Prague he was walking around Wenceslas Square absorbing its historical beauty and the gentleness of the people there. He quickly befriended an excellent English speaking, young university professor. He was in his early thirties and most eager to speak English. His name was Igor. Adam felt there was something gothic and archetypal about his name, especially in a city bursting with ancient buildings. Quickly Igor introduced him to some of the inconsistencies of the communist way of life. They had already established that Adam liked beer, especially Czechoslovakian beer. It was an excellent lager, cold, light and effervescent, and it still had impact. It could produce the appropriate alcoholic buzz. Igor took Adam to the front of an attractive looking bar. But the queue was long, very long.

“Ahh, this is the way its Adam my friend. We queue for everything. And I can suggest to you that there’ll be nobody inside. Its all part of the bureaucracy.”

“Hmm”, said Adam. “Let us try an experiment. I’ll pay the money, you provide the interpretation.”

So Adam grabbed his newfound friend’s arm and took him straight to the front of the queue. The doorman stood there, formidable, impenetrable. Adam took two U.S. dollars out of his wallet. He had already
asked his friend to introduce him as a visiting dignitary from Australia who was hoping to set up a trade relationship with Prague. In fact he went so far as to suggest that Adam was a very senior representative with the Chamber of Commerce (an institution well known in Europe from Napoleonic times).

It worked extraordinarily well. And not only in that bar, in at least six other bars that they went to. Same long queue. Same procedure. Same entry requirements. About two U.S dollars, and excellent beer to be tasted and enjoyed in an otherwise empty bar.

Prague, Adam considered was an excellent location. When he arrived at Budapest he found a very similar environment to that of Prague and Warsaw. A population who were keen to impress tourists, keen to absorb new ideas, keen to embrace change, especially in the way business was done.

On a whim he pulled Dr Lesthan’s card from his wallet. He had been carrying it for some time. He tried to call Lesthan from his hotel room. That was easier said than done. It took two whole hours before he was able to make contact and he was sure someone was listening in on his conversation.

“Very glad you called. You must be a mind reader. I have been trying to get into contact with you for a couple of days. I am about to leave for Panama to look at some old excavation that was done just before the war. Seems as though the Americans might want to increase the capacity of the locks. They have decided to recommence excavation. They want me to have a look at it to see if its viable. I was going to ask if you were interested in coming.”

Adam was a little taken aback. He didn’t know Lesthan that well at all. However he decided this could be an adventure.

“I am on way back to Australia in the next couple of days anyway. How about I fly to Miami and then down to Panama”.

“That seems a logical route,” said Lesthan. “You will probably have to stop in Paris first if you are leaving from Belgrade. See you in a couple of days. I will be staying at the Excelsior in the old part of Panama. I have heard its a bit seedy but its an interesting area at night. Make sure you
book in there too. Catch up with you shortly." Rumpled, and beginning to feel the affects of constant travel Adam headed for his next destination.

He only stayed in Belgrade for one night. The taxi driver taking him from the airport to the hotel was dour. The person who checked him into the hotel was extremely dour. When he walked around the city, curiously looking into shops and asking for assistance in purchasing some small bits and pieces the shopkeepers or shop assistants were almost fanatically dour. Nobody wanted to sell anything.

Adam had a bad feeling about this place. Here was a group of people who did not wish to communicate at all. Whenever, if ever, the change came it would not alter the world for these people. It was as though they wished for nothing. No change. No friendship. No money. The only redeeming feature in Belgrade was slipovich. He enjoyed many varieties of this at the airport; peach, plum and cherry. The last lingering thoughts and feelings towards Belgrade were gained on the Yugoslavian airline flight back to Sydney. Adam boarded the old and unrecognisable aircraft. He knew this was to transport him thousands of miles. He worried about its safety.

He was fortunate enough to be by himself at a window seat with only one seat to his right and that was vacant. The bulkhead was immediately in front of him and attached to that was a single jockey seat. He assumed the flight attendant would sit there for take off and landing. His confidence in the airline deteriorated further when he went to adjust the airflow control device which was blasting air over him to an uncomfortable degree. As he tried to close it the whole device fell out onto his lap. He put this to one side. He then looked for his table tray. This had to be in the armrest as the jockey seat was in front of him. He began to lift the cover of the armrest and it too fell out onto his hand and slipped to the floor. This made a considerable clatter and the flight attendant, an archetypal Eva Braun, confronted him.

“What are you doing?” This was an order, not a request. Adam looked at her, noticing that she had a uniform that made her look more like a mechanic than a hostess or flight attendant. On her chest (Adam didn’t think ‘breast’ was appropriate), she had a military webbing like attachment
to her uniform which held a small flashlight, screwdrivers and other useful instruments. Without answering her he asked the question,

“Why do you have the screwdrivers and other pieces of equipment there?”

She looked at him as though he was a complete idiot and said, “To fix things that are broken.”

“Oh, like the air control mechanism here?” Adam passed the small, silver funnel to her. “And this thing here”, he pointed to the armrest that had fallen off.

“Of course that’s what its for. It will be fixed up in-flight.”

Adam couldn’t resist it, “How secure are the engines on the wing in that case? Bit hard to fix those mid-flight.”

There was absolutely no response and he realised he would be lucky to be fed at all on the flight, and it was a hopeless case to ask for slipovich. So instead he asked “You’re from Belgrade I guess. Such friendly people.” No response.

He never managed to get a drink of slipovich, although he was able to get a warm glass of beer. The rest of the trip to Paris and then onto Miami was uneventful and he slept in fits, punctuated only by some garrulous French who were obviously insomniacs. The flight from Panama to Miami was only exciting to the extent that he had to land in tumultuous weather. It was pouring with rain as his plane careened down the landing strip. The plane shuddered violently and twisted and squirmed its way all along the tarmac. There was very little light outside. He was glad to disembark and rushed to get to the head of the queue to run the gauntlet at immigration. He wondered why he paid a few dollars for a tourist visa that nobody looked at.

The rain bucketed down relentlessly. Adam could see nothing out of the taxi windows apart for the occasional street lamp and the shattered light emanating from houses at some indeterminate distance to his right. He had the feeling he was close to the coast. There was a sea-salt smell. It seemed a long drive. Thirty or forty minutes. The taxi pulled off the main road and started darting through narrow alleyways. And he was now starting to make out the shapes of buildings. Most of them only two or
three storeys high. Very colonial looking. White stucco walls, cracked but gleaming in the wetness of the night. Shuttered windows. “All very Somerset-Maughan” he mumbled to himself and the driver took no notice.

The taxi pulled up abruptly. He looked out and saw an imposing doorway. White marble steps led to a huge wooden fortress white door. A doorman, ignoring the rain, pushed the door open for him. A bellboy frantically tried to remove his luggage from the back of the taxi. The taxi driver followed closely on Adam’s heels. He went directly to the concierge who handed the taxi driver some US dollars and nodded to Adam. “We’ll add that to your bill Sir. Please head over to the reception area to check in.”

Is Dr Lesthan staying in the hotel?” he asked the concierge.

“Well, yes Sir. He certainly is. You’ll find him in the cigar lounge down the end of the passageway, Sir.”

Adam marvelled at the high ceilings, the marble floors and the wide passageways. Smoke could be seen oozing out of the doorway some thirty or forty feet away.

“After I have checked in would you send my bags directly to my room I will go to the cigar lounge now and see Dr Lesthan.”

“Yes Sir.”

Adam was feeling damp and tired after the onerous trip to Paris, Miami and then to Panama but he decided it would be best to see Dr Lesthan now and then settle into a long bath later in the evening. Before Adam could move towards the smoking lounge Lesthan himself came stumbling out into the passageway.

“My god Adam. Young fellow. How are you? What exquisite timing. Come in have a drink old boy. I’ve had a few brandies myself just to get the creative juices working”. The effect of the brandy was obvious to Adam.

Dr Lesthan dragged Adam into a smokey den. Sweet-sour smell of cigars filled the room. Of course Panama. Cigars were abundant and cheap. Also a sign of machismo. He eyed the other men in the room who all wore crumpled, stained white suits. All had open necks. Some shirts
were undone, the top one or two buttons. Some had no tie at all, others had their ties loosely hung around their necks.

Pushing Adam into a deep wicket chair he asked. “What do you know about the Panama Canal?”

Adam replied. “Not a lot. I know it connects the Atlantic to the Pacific Ocean. I know a lot of people died here because of malaria and other things. It has been around for one hundred years or so.”

Lesthan raised his finger to shush Adam. “The whole thing consists of three sets of locks and two artificial lakes and a deep artificial channel. Its about fifty miles long but it takes three thousand miles off a ship’s journey. You know, there is another artificial lake which controls the water into the canal to avoid currents. This helps with navigation but it also provides extra water in the dry period. Water is the real secret Adam” he said.

“Why?”, asked Adam. “Apart from water being in the canal to float the ships, what is so important about it.”

“Well that is precisely it. If it didn’t have the heavy rainfall the canal wouldn’t work. Its not sea water you know its fresh water. Cleans the barnacles right off the ship as they go through the canal. That’s a little bonus for the hundreds of thousands of dollars they paid to get through this tollway.”

“No Adam there is a lot of misconceptions about the Panama Canal. For a start it was essentially a railwork project. It was railway engineers who ended up being successful in the excavation and clearing all the tens of millions of tons of dirt that created the canal. When it was created it was the greatest feat in transforming the earths surface in the history of mankind. But have a look at it now. Its really a military zone. There are military bases all over the place for army, navy and airforce. There are ten bases. Six near the Pacific and four near the Atlantic. There are tens of thousands of troops. And most of all by boy there is intrigue. Like a bit of mystery, eh?”

Adam replied. “I have read a lot of Agatha Christie.”
“Do you know just before the First World War there were a lot of landslides which blocked the canal and cost dearly. I suspect those landslides were not natural. They were in the middle of nowhere. I think they were man-made.

You know back at the beginning of the Second World War there was a third set of locks authorized to be built then. They got started but they never got finished. And here we are forty years later. Those excavations were pretty extensive and now they are full of water. But these are good signs. The water is still there. It doesn’t leak out. The slopes haven’t changed in forty years, so they are still stable. That’s one of the reasons I am here. Just one of the reasons. You know the capacity of the canal has doubled since 1914. And there is great demand for further increasing it. I am going to have a look at that old 1939 excavation and see if there is anything we can do with it. Everyone has been looking at ways of increasing its capacity.

In 1957 some of the engineers looked at a sea level canal. God knows what would happen environmentally if that ever occurred. In fact it was only a couple of years ago that the good old US President Lyndon Johnson had a group of engineers set up to see whether they could detonate a series of atomic explosions to clear the canal the whole way, Atlantic to Pacific, all at sea level. No-one really knew what would happen as a result of that. One can only guess.”

“That nuclear bomb stuff”, said Adam “you really like talking and thinking about that don’t you.”

“Oh well there is a lot of power there. One day this planet will be run by nuclear power. Anyway this place is in a bit of a political mess.

In 1964 President Chira of Panama broke off all diplomatic relationships with the US. Some friend. If it wasn’t for the US and the military engineers this place never would have got built. Anyway I think it was last year a basis was formed for getting some sort of treaty through. However the US will eventually be out. But you can bet that they will keep all their military bases and they will use whatever power they can to guard the Panama’s security.

Anyway did you see much of old Panama?” Lesthan asked Adam.
“Not a lot. Its dark and raining. But it looks very colonial. It looks like some of the dilapidated parts of Spain.”

“Well obviously old boy. It has that Spanish heritage you know. Oh I love it here in the old part. The new part of Panama City is just that. Its a new city. It doesn’t have anything to offer me.

Its really a clever piece of engineering you know Adam. I have already mentioned its fifty miles long and it takes three thousand miles off any ships journey. But it takes twenty–four hours to get through the whole process. There is a lot of stopping and starting on the locks of course. And the whole thing is gravity fed. You know in eight minutes twenty-six millions gallons of fresh water from Lake Gatun, where the water needed for canal operation is stored, is spilled into the sea. This happens every time a ship passes through the locks into the Pacific. So you can imagine why water is so important.

Adam I am an engineer and I have had a good look at these things. The three sets of locks include eighty-eight steel lock gates and a combined total of almost two hundred and fifty valves and those valves are really big. They are used to control and direct the water needed for the canals operation. The whole thing is run electrically. Therefore the poor old French could never have completed the thing back in the later 1800’s anyway. They wouldn’t have had the technology associated with electricity to do it. Each of the chambers is three hundred and thirty metres long and thirty-three and a half metres wide. Inside those the ships are raised and lowered using the water from Lake Gatun. There are no pumps. There doesn’t need to be because its gravity fed. And do you know what they do to control the ships effectively during their passage through the locks? Sometimes there are only inches to spare on the side. They’ve got these huge fifty-five ton three hundred and forty horse powered locomotives called mules and they are used to brake and maintain the ships in their chambers so they don’t make contact with the concrete walls. They can use four, six or eight locomotives for each lock passage. That depends on the size of the ship. Anyway the whole thing is fascinating I will take you for a look at some of the locks tomorrow. Anyway enough from me old boy. Drink some more!”
Adam had already consumed two local beers. They were to his liking. Cold lager. Not like the thick brown stuff he only once experienced in London. Must be the American influence he thought. Lesthan pulled another beer across the table and placed it in front of Adam.

“You know the biggest problem here Adam?”
“No,” replied Adam

“Security. That is the real reason I am here.” Lesthan was starting to slur his words. Obviously his self control had loosened up as well.

“Security. For one crazy person from one crazy country that has a nuclear device. Put in into a container. Put it on one of the ships. Get it into the locks and detonate it. That will create one holy mess.”

“Do you think that will ever happen?” said Adam.

“I really don’t know. Perhaps not in this year. Perhaps not the next ten years. Sooner or later some lunatic will probably try it. Maybe it will take fifty years. Who knows.”

Eventually Adam was able to convince Lesthan it was time for him to turn into bed. He was extremely tired after a long series of flights. He stumbled into his room and found high ceilings with the slowly revolving fans he half expected. Fascinating.

Over the next couple of days Lesthan did what he promised. They walked around the old Panama section which Adam found a hot and sticky experience and not really to his liking. The glistening facades of the old colonial buildings had been far more attractive and enchanting at night. In the daytime they were just crumbling ruins.

He spent one afternoon at the Balboa Yacht Club. This was disarming as far as yacht clubs go. In fact he had never visited one but had the impression that they were supposed to be classy, swanky places, full of people with white trousers and white shoes with Bermuda jackets and glistening buttons. Where people sported outrageous moustaches; where you would have expected Panama hats. However the Balboa Yacht Club was another experience. A small temporary bar (temporary for as many years as the building had existed) served beer and snacks. The tables and chairs were of a domestic and tattered quality. It was an open
air affair. A canvas awning served as a roof. Presumably that was to keep off the unpredictable rain storms that he had already experienced. So thick was the rain on occasions that it was like a solid fog. A wall of water where visibility ceased.

He had taken a stroll from the Yacht Club one evening. He did this by himself leaving Lesthan to talk with some of his colleagues who were very English. His walk took him along the causeway. He ultimately made it to an island. He wasn’t sure if it was a man-made island. Perhaps it was from all the material that had been pulled out of the canal. The walk was refreshing as a breeze crossed the walkway, although it was a very long walk. There were many open air restaurants at the island end of the causeway. He stopped at one and enjoyed a refreshing cold beer. He then took the walk back to the Yacht Club and rejoined Lesthan.

“Its time for me to go. I really must get back to Australia. You know there have been deaths in the family and I fear with that is going to come some responsibility. I am flying out tomorrow. This time I am going from Miami to Los Angeles and then onto Hawaii and then back to Sydney; but I won’t be stopping on the way. I will be going straight through.”

“Sorry about the deaths old boy,” said Lesthan. “However, you might find with that responsibility you are no doubt going to inherit some treasures to go with it. You must keep in contact. Let’s have a few more beers to help you along the way and to prepare you for a very long journey.”

Adam relished the thought. A term he had heard somewhere was very apt. This was a very “thirstifying”climate. Constant cold beer made it all the more tolerable. He couldn’t understand how Lesthan could drink spirits, which he was sure heated the blood.

**Australian Interlude**

This was his second visit to Sydney. And after his brief travels overseas, Adam had a fonder feeling. Certainly his feeling for Sydney was far fonder than that for Adelaide. He could feel the international potential for Sydney. It would, he prophesised, sometime in the future, become one
of the great hubs of the world. Even now there was some evidence of this. But there was certainly some room for improvement.

The taxi drive from the airport through to Sydney still took the route he considered to be the arsehole entry. He knew there was a planned motorway entrance to the city and this would have to be a great improvement. He decided to stay one night at The Boulevard Hotel in William Street near Kings Cross. This would enable him the opportunity to do what he called ‘investigative walking’. His most favourite mode for getting to know a city well was to walk, keep walking, and walk more. This way he could see and feel the essence of the people and the buildings.

Adam walked out of the Boulevard, a short distance down William Street until he got to Hyde Park and then he turned right onto Macquarie Street. Ducking the few pedestrians he headed down the hill towards the Opera House. He stopped at the Opera House and wondered at the lack of dreams. He looked around him at the complex skyline with Harbour Bridge, undulating hills of the North Shore, and the crenellations of buildings stacked on the hills. He looked back on the Opera House and wondered if this is characteristic of the nation. Something is missing. Huge, expensive murals should cover the external walls. A patron should be found to finish the Opera House. The concrete mass of the seagull wing or sailing boat metaphor just seems unfinished. How much more opulent would the structure look and compare to the greatness of the Vatican if the walls were covered with opals. Make the shell-like building sculpture resemble a massive mother of pearl shell.

On a whim Adam decided to fly back to Adelaide, rather than take the train or bus. There was no welcome party of friends to herald his arrival in Adelaide. He’d severed most of his relationships during his three-year bankruptcy. He had been on a mission, and that didn’t include much socialisation.

His first stop was the solicitor who’d been handling all the affairs of his father and mother. He took a taxi directly from the airport to Norwood where the solicitor had his offices. Nothing pretentious. No high-rise in the CBD. This was a federation house in excellent condition. The waiting area was pointed to by a rather stern receptionist. After a few minutes of
browsing through old magazines he was ushered through to a tiny office that must have been the smallest original bedroom, probably for servants. The lawyer was a tall, thickset fellow with dark hair and a moustache. He had the air of an Adelaide private school chap, one who practised as a lawyer as little as possible and followed cricket and football as much as possible.

“Well Adam, I knew your father very well, and your mother too. A great tragedy for both to go so quickly. Its also a pity you missed the funerals. I think your mother and father would have liked you to have been there. They had two separate ones you know. Two separate sets of friends really. But I guess you know all about that.”

Adam nodded. And then asked, “What’s the financial situation?”

“Well the financial situation. Well your accountant had a valuation done on the business. Not as much as we originally thought. The business was valued in total at around four hundred and fifty or five hundred thousand. But it seems as though there is a couple of hundred thousand dollars worth of debt that will have to be paid off if you wish to lay claim as the only beneficiary. Otherwise myself and the accountant will look after the estate, pay all the debts and pass what’s left onto you. However it seems as though you have been recorded as an employer and part owner of the business. In that capacity you can act as executor and leave us out of it if you like. Apart from the work we’ve done so far. That will cost a few thousand.”

Adam replied, “I want to sell the business to the workers who are there, if they can afford it. Or we can raise the finance for them. I want to pay off the debt. And I’ve been thinking about this. I don’t know what you call it but I want to create a tomb or mausoleum or something like that in the shape of my father’s factory and to move both bodies into there.”

The lawyer looked surprised. He looked up at Adam. “That will cost a lot of money.”

“I don’t care, what’s there should cover it. Its not my money anyway. Its their’s. I’ll talk to one of those people who makes these sorts of things today and get some kind of quote and call you back. I’ll handle the
financial aspects and act as executor. Is there anything else?” Adam looked at the lawyer.

“Not really. The situation is fairly simple” he replied.

“Well” said Adam “I’m off.” He shook the hand of the lawyer and quickly turned his back. He had asked the taxi driver to wait for him. He paused at the reception area and asked the receptionist for a copy of the telephone book. He scoured the yellow pages and found a stonemason that specialised in tombstones. He scribbled down the address. Adam hurried out, jumped into the back seat of the taxi and gave the address in Port Adelaide.

Adam’s mind boiled. Here again he was playing the role of the entrepreneur. His father, barely in his grave, and he was selling factories and in all probability he was likely to come into some significant wealth very soon.

After a twenty-minute or so drive, Adam alighted from the taxi and stepped across the footpath, walking through the gateway into the stonemason’s yard. This was a huge area full of complete and incomplete statues, gargoyles, tombstones, pillars and other slabs of marble. There were shards of marble and grey dust all over the place. There was a very gothic feel and Adam was more than happy that he was not negotiating these premises at nighttime, especially in a storm. Too sinister, he thought. Lightning, thunder, weird shapes and shadows; blood curdling noises, and things that scuttled around in the dark.

A solid, grey haired man approached him. He was wearing a fine white dust all over that gave him a look much like one of the gargoyles Adam had just passed.

“How can I help you?” the gargoyle said.

“I want to build a monument for my parents.”

“What is it to look like?”

Adam requested a piece of paper and a pencil; this was quickly supplied from the back pocket of the statues’ overalls. Adam creased the paper and placed it on a gravestone. “I want to build something out of marble that looks like this.”
Adam sketched up a picture of his father’s factory. It wasn’t difficult to draw but Adam wasn’t an artist. It was a rectangular shape made of corrugated iron with a single gable roof. Adam’s attempt was sufficiently recognisable for the stonemason to understand. “This is exactly what I want. How much will it cost?”

“That depends upon the size.”

“I want it to be big enough to take two bodies in those stone coffin things. One each.”

The stone dusted mason took the piece of paper from the gravestone Adam had written on and started jotting down some figures. He scribbled several sets with the pencil, crossed them out and started again. Finally he said “I can do a great deal for you at thirty-five thousand dollars.”

“What does that mean?” Adam asked.

“I can give you the dimensions you want, that’s um twelve feet by seven feet, and I’ll make it seven feet high with the pitched roof. It will be in granite. You can have inscriptions wherever you want them up to twenty words. I’ll also throw in those two stone coffins that you requested. We actually call those sarcophagus.”

Adam was happy with the deal. “I will send you a deposit in a day or so, and I would like the whole thing completed within a fortnight.” Adam was banking on some fairly quick settlements.

“Done” said the stonemason.

Adam shook his hand and walked out to Port Adelaide road. He wandered a few hundred metres before he hailed a taxi. He took the taxi back to the airport to pick up his luggage, and then, considering that he had impending wealth, he checked into one of the grand older hotels on North Terrace.

The next day, early, Adam telephoned the factory and surprisingly someone answered. It was Henry. The person he knew his father had called the factory manager, although he was really a factotum, doing everything that needed to be done to keep the operation going.

“Henry this is Adam.”

“Ah Adam” Henry replied. “We were rather expecting you to call at some stage. Where are you?”
“Adelaide” Adam replied.

“Oh that’s surprising,” said Henry. We were expecting a phone call from London or somewhere overseas.”

“No I’ve come back here to do what must be done. Henry I’m going to make one offer and one offer only, and I want you to talk it over with whoever you want involved in the factory. The factory has been valued at about four hundred to five hundred thousand dollars. But we know there are a couple of hundred thousand in debts. I didn’t realise that my father didn’t own the factory, I thought he did. Evidently he just leased it, that’s why the value is lower. But if you guys think that the business is going well I’m going to offer it to you for two hundred thousand dollars and that includes everything. Its yours lock, stock and barrel. And, I’ll pay all the creditors to date, assuming I get all the funds from the debtors.”

There was a pause at the other end of the line.

“I’ll have to think about that Adam. Call me in twenty-four hours and I’ll tell you if we want it, if we can afford it, and who I want in with me. I obviously have to talk it over with my wife.”

“Let’s see what happens” Adam replied quickly.

As soon as the phone was hung up he rang Jeff, the bank manager for his father. He had not spoken to him for well over three years, since the debacle of his training centre.

“Jeff this is Adam, Peter’s son. I want you to tell me if the business is viable as it stands.”

“What, Peters business?” he said.

“Yes of course Peter’s business. You were well aware of what he was up to, especially after the fire. Is it a viable proposition? Is the business worth anything?”

“Well I was part of the valuation that was done a couple of weeks ago. Its worth well over four hundred thousand. Its a viable operation because the guys that work for your father ran it anyway. He was always off screwing around somewhere. He’d really let it go.”

“What about the debtors and creditors?”, Adam asked.

“Your accountant knows more about that than I. But when we did the valuation they equalled each other out.”

299
“Ok if that’s the case, if I can get two or three of the guys together to buy out the factory, will you finance them?”

“If the debt’s been spread over three or more people I don’t have a problem with that. The bank won’t either. It should work for them.”

“What sort of interest rates?”

“It will be normal market rate.”

Jeff, “Thanks for that”. Adam then rang the accountant Kevin and asked for details.

“Kevin this is Adam, you know I’ve seen the lawyer. By now you probably know I’ve contacted the bank manager and also you probably know I’ve spoken to Henry at the factory. In South Australia word travels quickly.”

There was a pause for a few seconds, and then Kevin replied. “Well you’re in a bit of a hurry. Yes, you’re right on all accounts.”

“Well give me the exact figures now, I need to know, I’m going for a sale.” Adam was on a roll.

“Ok, the debt comes to two hundred and one thousand dollars all up. That includes, and I’ve asked on your behalf, legal fees, my fees, outstanding creditors etc. But it doesn’t take into account the debtors of which Peter had quite a few, and are all realisable. I’d say that it would be around about a hundred and fifty thousand dollars worth of debtors, maybe a bit more. You should be able to pull all that in within a month.”

“Ok” said Adam. “This is what we’re going to do. If the guys at the factory agree we’ll do the sale at two hundred and thirty-five thousand dollars. The bank will finance it. We’ll call in all the debtors and we’ll pay all of the creditors. Incidentally, there’s one other creditor who we owe thirty-five thousand dollars. I believe that’s going to leave me with around a hundred and fifty thousand dollars. I want this whole thing tied up in two to three weeks.”

“That’s really pushing it” said Kevin, “but it can be done. I guess it all depends upon what the guys at the factory say and what the bank says.”

Adam said nothing, the pause on the telephone was too long for the accountant. “What’s the problem?” said the accountant.

“Um, nothing” said Adam. “Let’s leave it there.”
Adam was feeling rather pleased with himself and decided to go to the house bar and have a few drinks. This he did. He turned in early that night. He woke early next morning and went for a four-mile walk around Adelaide. He walked the length of each of the four terraces, North, then East, then South, then West Terrace returning to his hotel on North Terrace. By the time he had some lunch it was time to ring Henry at the factory.

“Henry, how are you?” Said Adam.

“Fine.”

“Do you have an answer for me?”

Henry paused. “Yes there are four of us, we’re in. I’m going to take a slightly bigger share than the others but that doesn’t really affect you. We think the price of two hundred thousand is exceptionally good.”

“Yes, so do I” said Adam. “That’s why it’s going to be two hundred and thirty five thousand dollars and I will raise the finance for you.”

“That’s more than you originally suggested.”

“Yes but the valuation was more than I thought. You’ve got a good deal. You don’t have to worry about raising the money. With four of you in you’ll be able to sign the contracts this afternoon or tomorrow morning. Give Jeff a ring at the bank and he’ll explain what to do.”

“You were fast. Very fucking fast. Much faster than your father, what’s at stake?”

“All I want to do is get the hell out of Adelaide again.”

“You really hate the place, don’t you?”

“More than you’ll ever believe” replied Adam.

Henry said, “Look, we’ll make arrangements immediately to see what we can do with the bank. It will be done today or tomorrow. Two hundred and thirty five thousand is a good deal. You’ve taken the pain out of raising the finance for us.”

Adam was very pleased with the way he had acted. Thinking and acting like an entrepreneur wasn’t that difficult when it was somebody else’s money. This was a refreshing change from the depression of the Thinking Factory. By the end of the week he had secured the finance for the purchase, exchanged contracts on the purchase and received via the
bank, a fifty thousand dollar deposit. He had no intention of settling all the debt until all the debtors had paid. One would effectively wipe out the other.

A week later everything had been tidied up. The stonemason had completed his work of art. The accountant, for a very small fee had agreed to finalise all the creditor and debtor situations and assured Adam at the end of the month he would have approximately one hundred and forty thousand dollars in his bank account. When he received this information from Kevin he said, “Well Kevin, do you know how I’m going to celebrate?”

“How’s that?” replied Kevin.

“I’m going to have a memorial funeral for my parents. I’m moving them into a mausoleum.”

“Yes, well I’ve already been to the funeral. I doubt I’d be going to the memorial service, its all over to you.”

The memorial service only attracted himself, the stonemason and the funeral parlour operator who handled the exhumation and transfer of the bodies to their new stone coffins in the mausoleum. It was a bright and sunny day. This was a sign.

Adam’s new found wealth made him feel quite secure. He was still in his twenties and he had more than a hundred thousand dollars in the bank. Perhaps life wasn’t so bad after all.

**Desert vision**

Adam was keen to do something different. He began hanging out in the most salubrious bars in Adelaide but wasn’t able to attract much attention. Until one evening he fell into a long discussion with an opal miner who had struck it rich.

“You see Adam there are lots of ways of making money. Real estate is one of them. I know it sounds crazy, but did you know that you can buy land for ten cents an acre in the Simpson Desert?”

Adam looked at his beer and glanced at his new friend. He had all the characteristics one would expect of an opal miner. He was thin, brown and looked exceptionally fit. He was relatively well spoken and it was a
surprise for Adam to find out he had actually been a geology student at Adelaide University.

“What would I do with a hundred or a thousand acres of land in the Simpson Dessert?” asked Adam.

“Well, buy it, then work it out. As the population of the world gets bigger the amount of land on the planet stays the same. Progressively land has to become more valuable doesn’t it? By the year 2000, and that’s over twenty years away, we should be looking at more than double the number of people we’ve got on the planet now, or thereabouts.”

“You mean that land would go up to twenty cents an acre?”

“No no no it doesn’t work like that. Anyway give it some thought.” And Adam did.

He had always been intrigued with the centre of Australia although he had not seen much of it.

A week after the memorial service and after meeting his nuggety friend in the bar, he took a rental car and drove himself the long, lonely drive through Port Augusta up to Woomera. From there he drove on and looked around the opal fields of Andamooka. He was surprised at how captivated he was by the red gnarled rawness of the area.

One night he drove out to Maralinga, the area where there’d been atom bomb tests. The land would have to be cheap; very cheap here. He called into a shantytown that seemed to have no name. But there was a general store. And there was a real estate agents desk in the store. He walked across the earth floor to a rickety counter and confronted an elderly Aboriginal man. He asked him if there was any land for sale nearby. “Land for sale? Stop being crazy. There’s millions of acres of land around here for sale, but no-one wants to buy it. Its dead flat, has nothing offering. Its even too hot for the kangaroos and snakes. Why? Do you want to buy some?”

“Perhaps I would,” said Adam. “What kind of prices are we looking at?”

“Well if you buy a minimum of ten-thousand acres I'll sell it to you for fifty cents an acre.”
Adam surprised, said “That’s only $5,000. I want more land than that. Can you legitimately sell me a hundred thousand acres for say $40,000?”

“If you can come up with that money mate I will sell it to you tomorrow.”

“First of all I want to have a look where the land is”

The old aboriginal scrunched around underneath the counter. He came up with a tattered, creased map. He said “Look this is where we are, right here.”

He grabbed a coloured pencil and put an ‘x’ rather like a pirate might do when looking for hidden treasure. “You drive down this road, then that road, then this road. Then go about fifty miles along here and there you will see it. Stand at this point, which is up a few hundred feet and a look around you. As far as you can see will be your land. That’s over a hundred thousand acres. It runs about ten to twelve miles down one side and about fifteen miles across. A lot of land, mate!”

“Then”, said Adam. “I will be back tomorrow afternoon.”

He realised it was about five in the afternoon and had about an hours drive to go. He bought some bottles of Coca cola and a couple of meat pies. Not very sustaining he thought to himself but it will do.

He leapt into his car and drove to try and reach his destination before sunset. This he did. He made a campfire for himself near the car and sat on top of a flat, orange rock on the small hill he had been directed to. He looked up at the stars, which were already appearing as the horizon dissolved from a dark orange to a dark brown and then to black.

He stretched out his sleeping bag next to the fire and settled back to sleep.

He awoke early in the morning as the sun was just appearing above the horizon as a distorted, squat, orb. He looked directly at the sun; it was not bright enough to hurt his eyes. He feared the strained megatons of fury of this rising sun and saw it physically move up the sky. The despair and loneliness of this brown land was magnified a million fold by the exploding rays of the sun. It seemed as if he was the only human being in the universe. Adam was overwhelmed by his experience and decided he would purchase this land immediately.
After drinking some Coke that had been chilled in the desert night and then eating an unheated meat pie he jumped into his vehicle and returned to the store. It was deserted. He chose to sit on the veranda and wait. At around ten o’clock the storekeeper arrived looking a little worse for wear.

“Heave I got a sale?” he said.

“You bet ya.” said Adam trying to blend his accent into the bush setting. “Are you able to start the conveyancing here and take the deposits, and all that stuff.”

“You bet ya” says the agent; “you bet ya.” he replied, imitating Adam’s response. “I own the bank as well.”

After a couple of hours in the ramshackle store Adam paid the deposit and was instructed as what to do to complete the sale. Again its a simple transaction. No complexities. No-one else bidding. Little bit of work for the lawyer to do in terms of due diligence to make sure he can have clear title to the land.

On the drive back to Adelaide it wasn’t quite so lonely. Adam had acquired a huge tract of land for a ridiculously low price. However he had no idea what he was going to do with it.

He had some time to wait until the deal could be finalised. So he checked back into the Grosvenor Hotel on North Terrace. He decided he would contact his friend the doctor from England. He pulled out the card that he had kept for such an occasion and decided to send him a telegram rather than a letter. The details were on his card. He was expecting a rather immediate reply although he considered that there was a significant difference in time zones. He spent the next few days waiting for a response but nothing came. He filled his time by walking, reading and swimming. So many beautiful beaches were only minutes away. White sand; solitude. He had a rental car which he now had on a very reasonable rate for long usage. Finally on the day of settlement of the land near Maralinga he received a reply from Dr Lesthan.

“Adam, how pleased I am to hear from you. Please note I am not actually in my office in Epson but rather I’m involved in some interesting
work in Salzburg in Austria. I note you are back in Adelaide. I hope you are using the time constructively.

You mentioned you have purchased a hundred thousand acres of land in South Australia. How very enterprising. You know there is no such thing as a bad land purchase, only bad utilisation of the purchase. I hear too of the untimely deaths of your parents. Very unfortunate but it seems as though you are a little wealthier now than when I saw you last. I would like you to join me in Salzburg, if you can afford the time or money. Please let me know.

Regards Your friend and confidante Dr David Lesthan.”

Adam tried to think. His response was quick. Another telegram. “Of course I would like to come to Salzburg. I am assuming you will be there for at least another week or so whatever your business. I will organise a flight immediately from Adelaide. All of my business is finished here.

Regards, Adam”

By the time that day was completed and Adam had confirmed the bookings from Adelaide to Sydney, Sydney to Frankfurt and then Frankfurt to Salzburg his doctor friend had already replied.

“See you at the Salzburg Hilton Hotel anytime in the next three weeks.

Regards, David Lesthan.”

**Nuclear salzurg**

Adam was more than ready to go. But, things didn’t go quite the way that he had anticipated. He wasn’t able to fly directly to Salzburg and instead had to land in Vienna. He caught a train to Salzburg. This was a thoroughly enchanting interlude, pulling through mountainous regions with roaring rivers racing. Upon arrival in Salzburg he went straight to the hotel as designated by Dr Lesthan. He reported to reception and left a message for Lesthan. He settled into the house bar. Although the building was modern the bar had been recreated as a miniature hofbrauhaus. He ordered a sparkling, cold lager and as he was about to suck the first froth from his drink the doctor appeared, energetic and ebullient.
“Hello, hello my long lost friend Adam. Well not so long lost. We are only talking weeks and months rather than years. So much has happened for you. I am so glad I am so happy. And look at you. You are so tanned. You bought land out in the desert. You’ve seen some desert sun no doubt.”

Adam was pleased to see him not just because he was an interesting character but he was somebody that was one of the few that Adam could start calling a friend. They settled in to one of the many booths in this Bavarian-style drinking place.

“Well Adam I am going to let you into something. I have thought about your situation in Australia. You are poised to make a lot of money if you wish to. I don’t want any of it. Although I will help you as much as I possibly can.”

Adam was intrigued.

“Nuclear power my friend. Nuclear power. It has many enemies but many more friends. There are a few bugs in the system. We have had accidents, bad accidents. But at the end of the day, as some of the leading scientists know, burning fossil fuel for the next fifty or more years is going to do irreparable damage to our environment. Well-controlled nuclear power won’t.”

“But what about the nuclear waste?” Adam asked.

“That nuclear waste my friend is less dangerous by far than the resultant fumes that come out of the fossil fuel burning stations. Trust me on that one. Nuclear technology can only become more advanced, safer and more efficient. Don’t believe the naysathers. They’re all paranoid. You know at EC Hatkins we do so much work in this area.”

The doctor paused for a moment. Adam looked at him. “You know this is what I hope for you. Think about it. Where is the geologically and politically most stable area in the world.”

Adam hesitated, “I think you are referring to Australia aren’t you. We have very little in the way of earthquakes or volcanoes for that matter. So I guess that its geologically stable.”

“Exactly, exactly, exactly,” mumbled Doctor Lesthan.
“And of course we have political stability. Some people would say its political boredom. But yes I suppose Australia is politically stable. There is not likely to be any violent overthrow of government. Whether its labour or conservative government; it doesn’t seem to make much difference.”

“Exactly, exactly, exactly,” repeated the doctor. He continued, “You have political and geological stability. But what is the biggest problem with nuclear reactors and nuclear power stations Adam?”

Adam said “Well I suppose if they blow up that is a bit of a problem with spreading radiation. But as I said I guess nuclear waste is the biggest problem.”

“And where should we store nuclear waste?”

“Well,” said Adam, “taking your lead, in those places where there is geological and political stability.”

“Think, think, think Adam.” (Adam was getting a bit frustrated by the barrage of imperatives that seemed to come every time).

“Well I just bought a hundred thousand acres.”

“Exactly my man, exactly. And where is it?”

“Its near Maralinga where all the nuclear tests were……..” Adam trailed off. He could see where things were headed.

“My friend you are on to something big. I have contacts of my own in the government in the UK and Australia. If you are prepared to work in with the government, and this needs to be done very secretly, we can start storing waste there within twelve months. The process is simple. Keep the location secret. Have some reasonable security. Dig great big holes. Imbed the waste in concrete or even glass or ceramics and we’ve solved a great problem. And think of this Adam you’ll be doing something that is incredibly socially responsible as well. No other country on the planet will want to take nuclear waste.”

“Oh,” interjected Adam” I suspect that will be the case for Australia too.”

“Yes, yes but this disposal is very valuable for a farsighted government. And they will do it covertly. You’re familiar with the relationship aren’t you between Australia and the US and the UK. You’ve got secret bases dotted all over the top part of Australia, especially in the
deserts. Deserts and intrigue. They go together, heh what! The public squeals every now and then. But that’s quickly smothered. The press knows its not in their long-term interest to push that one. The same will apply here.”

“You probably don’t know but it was us Brits who built your first nuclear station at Lucas Heights. That was back in 1958. You probably also don’t know there were plans for a nuclear station at Jarvis Bay in New South Wales. We had done some consulting on that. But one of your new Prime Ministers caved into the protestors and canned that. Anyway you also mine uranium at Rum Jungle up in the Northern Territory. Uranium there was actually used for the nuclear bomb that was dropped right there at Maralinga. Odd world we live in isn’t it. Full of coincidences.”

A pause “Are you suggesting I utilise my acreage to store nuclear waste?” asked Adam

“You’ve got it in one,” said Doctor Lesthan. “The land ownership isn’t an issue here. Its so isolated and right by the side of an area that’s contaminated anyway. Think of all those atom bomb tests. And anyway all I ask is you think about it.”

“I have thought about it already,” said Adam as he drained the rest of his first lager. “And that’s about how long it should take me to think about it. I will do it. What have I got to lose. So long as once the deal is done I can leave Adelaide and probably leave Australia. I have my mind on other things. I have been thinking of getting into the fast food industry. That seems to be taking off worldwide. A big growth area I am sure. McDonalds is doubling the number of stores every few months.”

“You will get all the help you need from me,” said Lesthan. “Here, I have a package for you. I have finished my business in Salzburg. I have convinced you, that’s good. Read the contents of the package. Start the process. Call out for help whenever you need it. Get back to Australia and Adelaide as soon as you possibly can. Go for it my friend.”

Adam ordered his second lager and offered one to Lesthan. He declined. “No I must go. Its all over to you.” He shook hands with Adam and left.
Adam was amazed at the speed with which things had happened since his decision to leave teaching. The painful drudgery and depression that went with the setting up of the Thinking Factory seemed to be replaced with a dynamism that he had no control over. One coincidence after another rolled into his life.

He looked at the parcel on the table. The contents were wrapped in thick greaseproof brown paper tied tight with cord. His name was the only thing written on the outside. He carefully undid the cord and opened up the parcel to find a lot of loose pages. The top page was a letter to him. Adam looked at it.

“Adam; don’t disdain wealth. Its virtuous. It provides the power to liberate the creative soul; to enable you to get on with the important things in life. Wealth with compassion, wealth with integrity is a great virtue.

Good luck on your next venture.”

Adam repackaged the papers. He had originally anticipated being in Salzburg for at least a week so he went to his hotel room, let the hotel know he would probably be leaving the next day and then rang Qantas to change his flights. He was to return immediately. The papers that he flicked through were ominous but interesting. He had a lot of reading to do in the next two days. Life was starting to take an interesting twist.
CHAPTER SEVEN

Nuclear surprise

Cashing in

Eighteen months flashed by. Adam stood upon the hillock that formed the centre of his empire. He watched the sun set and bathed in the same red glow that he experienced on the day he purchased the land.

Brighter than a thousand suns. He looked in amazement at the setting sun. Was the fading glare and darkening sky symbolic of a lessening nuclear waste threat through his responsible actions? He had been successful in hiding all activities from the public but not the government. They had opted to become joint venture partners. The despair and loneliness of eighteen months ago, born of this barren land, were no longer there.

He felt a vibration low and rumbling below his feet. This reminded him of his earlier visions of Armageddon. Now he stood ant-like as the mammoth machine emerged from below. It was a colossus of a truck with wheels the diameter of the walls of a house. He ambled down from the hillock and entered the gaping mouth of the main cavern from which the truck had emerged. He walked into his labyrinthine universe. This dungeon was his contribution to the world. In eighteen months, and before he was thirty, he had accumulated millions of dollars. This was a far cry from when he had escaped from bankruptcy. He sat on one of the rock ridges and looked at the machinery working around him. Bright lights kept the operation going day and night. Huge containers of nuclear waste were arriving weekly, sometimes daily, from all around the globe.

His mind flicked back to his meeting with Lesthan in Salzburg. The package he had opened there had changed his life and possibly that of millions of other people for countless years to come. He recollected how he had settled back into his first class seat to Australia. He had pulled out the
papers and started sorting through them. He had been assured a vacancy next to him and this had been respected. He had the security to read the papers without prying eyes.

“Adam: Critical Notes for your consideration.

The United States has chosen to focus on a throwaway fuel cycle. However it seems that France and Great Britain are going to build expensive facilities to extract useful metals from used nuclear fuel rods to provide raw material for new fuel assemblies. The latter is not good for those who want to be in the business of nuclear fuel waste storage, as it seems there will be less waste.

The final product that will come from these plants will be a mixture of plutonium and uranium oxides. One of the advantages of this reprocessing is that the separated waste that will come from the mixed oxide will have radioactive isotopes that completely decay in less than 300 years. Not good news for an industry that wants to make money out of storing nuclear waste. We need the paranoia associated with decay periods of thousands, if not tens of thousands of years. Three hundred years is good for the environment, but not for us.

However virgin uranium, which is spent, requires virtually no protective measures as long as workers don’t ingest the material. And the decay period is tens of thousands of years. Workers can pick up fuelents and move them about. However with reprocessing they need far more protection from radiation hazards. This is an expense. That’s the good news.

It’s probably fair to say that for countries concerned about the disposal costs and long-term availability of uranium fuels it does make sense to learn about the process of recycling. Because of the shortsightedness of most people we are probably safe in anticipating that the United States at least will not bother with the process. And others will follow suit.

Point of Interest

At this stage there is no system for promoting the safety and management of radioactive waste in terms of storage, transport and treatment of disposal. Its expected some time in the future say in the eighties or possibly later that there will be a world body to establish safety standards
and codes of practice. Note at this stage anything goes but it would be relevant to consider self-imposing high standards of storage and transportation to anticipate such an international trend change in the future.

Adam noticed where there were many more pages on the storage of nuclear waste. He also noted that most of that related to the storage of nuclear waste from nuclear power plants. He also noticed other smaller bundles of notes related to nuclear waste material from military projects. Scribbled across the first page of this section was a note addressed to him.

“Please note Adam military by-products. Also note the following pages I have added for your information on nuclear tests, especially those at Maralinga.

Between 1952 and 1963 the British Government, with the support of Australia, carried out nuclear tests at 3 sites in Australia. These included some islands off the coast of Western Australia, another minor location and Maralinga in South Australia. Maralinga was developed as the permanent proving ground site following a request from the British in 1954. After it was completed in 1956 it was the location of all nuclear tests conducted in Australia. Following the major trials a number of minor trials, assessment tests and experimental programs were held at the range until 1963. Maralinga was officially closed following a cleanup operation in 1967.

There was great concern about safety standards during the conduct of nuclear trials especially with regard to measures to protect people from exposure to radiation and the disposal of radioactive substances and toxic materials. There’s some expression of concern about the effects on the lives of the Aboriginal people in the Maralinga area. This has been archived and actively buried.”

Adam noted something of interest “there was a blinding electric blue light, of such an intensity I had not seen before or ever since. I pressed my hands hard to my eyes, then, realised my hands were covering my eyes. This terrific light power, or rays were actually passing through the tarpaulin, through the towel and through my head and body for what seemed to be 12 seconds, it may have been longer. After that pressure wave, which gave a feeling such as when one is deep under water, this was then followed by a sort of vacuum suction wave, to give a feeling of one’s whole body blowing up like a balloon. (observer at Monte Bellows, 16th May 1956.)”
Adam noted the following “Operation Totem 1953. Objective: to develop a greater knowledge of fission weapons. Tests have been carried out. Yield 10 kt.

The US has already demonstrated the feasibility of megaton-sized fission or thermo nuclear bombs in October 1953. By 1954 there was a requirement to add megaton weapons to their stockpile. From March to May 1954 the UK was permitted by the US to observe the Castle test series. In 1954 Winston Churchill suggested that Britain should go ahead with H Bomb developments. By mid December 1955 there was increasing international pressure for a halt to atmospheric testing. It appeared quite possible the UK might have only a very short window in which to test megaton class weapons (and demonstrate its capabilities to the world).

Operation Mozaic 1956. The primary purpose is to do research to support thermo nuclear weapons development. Testing: 19th June 1956; Yield 98kt.

This was the highest yield test ever conducted in Australia. The UK PM told the PM Robert Menzies of Australia that the yield would not exceed 62kt. The true yield has been concealed.

Operation Grappa was the British test operation to develop a hydrogen bomb. It continued over more than a year and a half. Grappa I proceeded on 15 May 1957 yield 200-300 kt. Grappa 2 31 May 1957 yield 72kt.

Britain’s first truly successful thermo nuclear bomb was tested around 8th November 1957 off Christmas Island. Yield 1.8 megatons. It was dropped by a bomber and detonated after 52 seconds. Further development work on high yield thermo nuclear weapons continued in 1958 with an international test ban rapidly approaching. Several high yield tests were conducted.

Adam it goes on and on. If you are interested I have a significant amount of information on all of the various nuclear tests but in particular those at Maralinga.

I can congratulate you on your insight in buying your property near Maralinga. All you have to remember Adam is that where there is a bomb there is waste and where there is waste sooner or later it will be discovered. And that sooner or later can be tens of thousands of years.
Further information. Yucca Mountain lies on the western ridge of the Nevada test site. Its approximately 85 miles northwest of Las Vegas. Its a federal reserve and it has served as a proving ground for the America’s nuclear arsenal during the last 10 or more years. Now its a twilight zone littered with bomb craters, “hot” areas of inaccessible land and the remnants of custom built towns that were mostly vaporised by nuclear bombs. (I don’t know if the Americans want to do anything about cleaning this area up or storing the stuff themselves or whether they are a potential market)

Special Note

Remember risks in nuclear power stations. Spent fuel rods have to be stored in water on site for 5 years before they can be shipped. Perhaps we can do something about that.”

One figure flashed to Adam’s eyes. He picked up “stored plutonium is active for 250 thousand years”.

Entombed in success

Adam raised himself from his reverie. He stood up from the rock shelf where he had been sitting and moved towards the back of the huge cavern and entered the elevator that would take him eight hundred feet below the surface. The ride down was the same as that of a coalmine but much shorter. Because of the nature of the surrounding rock the waste storage sites below needed not to be thousands of feet below the surface. Most of the six inches of annual rainfall evaporates. The little that penetrates the rock, according to the calculations they had done, that is any residual rainfall not evaporated wouldn’t reach the waste for ten thousand years.

Adam didn’t mind the lifts rocking motion as he descended the eight hundred feet from the entrance cavern. He had done it so many times.

He exited the elevator and looked along one tunnel that he knew was nearly a mile long. He could hear the grinding of the machinery as it carved out more and more miles of tunnels. The ultimate objective was to have over twenty miles of tunnels carved out of the rock in the next three years.
In this primary tunnel he looked at the double walled titanium containers that were also supposed to last ten thousand years. Inside was the waste spent fuel rods from nuclear power stations from around the world.

Geotechnologists had assured him and his advisors the possibility of a major earthquake striking the areas over the next ten thousand years was almost nil. Everything had been based on a ten thousand year scenario. It was assumed that the technology of that future time, if human civilisation was still going, would take over and address any problems at that stage.

Much of the rationale behind the final decision to store nuclear waste here was an out-of-sight, out-of-mind philosophy. Dumped here, with no publicity, would keep the nagging environmentalists at bay. Adam felt secure in this environment although they all knew that one millionth of a gram of plutonium virtually guaranteed fatal lung cancer.

After checking the harmony of the workers chatter and the humming pipelines deep below Adam returned to the entrance cavern. He wasn’t insensitive to the savage beauty that was outside of the cavern doors, nor insensitive to the fact there had been some initial impact on the aboriginal tribe in the area. Although that had settled down. Once the initial excavations had been done and the road built, activity was minimal. All transportation of the nuclear waste occurred at night. So the road, in the day-time, was as devoid of traffic as the surrounding environment was of life. The local tribe had signed a lease for the land including the subsurface to a depth of three thousand feet. The matter was almost a meaningless concept anyway. No-one knew what happened in terms of the lease expiring at the end of one hundred years and it was hardly a problem for Adam who was gaining the financial rewards now.

The cavern entry had a huge moveable metal wall that separated the cavern space from the outside world. It was much like the doors used for the gaping mouths of aircraft hangers for huge international aircraft when they needed to be sealed off from public scrutiny or inclement weather.

Within this moveable but massive sheet were a series of other apertures. One large double doorway would allow the thirty ton waste carrying semi trailers through the entrance. There were another two smaller doorways. From the inside looking out, through one of the doorways Adam
could see nothing but a black, impenetrable void. His eyes flicked to his watch and back to the doorway. This happened several times. He was expecting somebody.

The figure appeared in the black frame. It was slinking rather than confronting. Like a shadow the figure flowed out of the darkness and into the brilliant white light of the cavern. The slinking figure flowed down the rock wall and moved steadily towards Adam.

Rebus didn’t look healthy even in the best of times. He had gathered a little suntan on his normally pallored complexion. A cigarette hung on his thin lips. He wore a hat that was reminiscent of the low-grade western movies so prominent on television.

Rebus could clearly see Adam and progressed toward him, all the time flicking his eyes around the huge space, much like one who had a paranoid secret. Rebus was one of the invisible senior public servants who lived on nervous energy and nicotine. He was in his mid to late forties. He normally resided in the corridors of power in Adelaide. There he was comfortable in crumpled grey flannel suits, reminiscent of the fifties and an earlier generation of conservative politicians. He had never made the shift to safari suits or something a little more practical and comfortable for South Australian summers. But here in the country was a transformation. He was happy to wear a pair of RM Williams riding boots, white moleskins and a flannel shirt with rolled up sleeves. The clothes didn’t hang well on his lanky frame, although his thinness gave him the appearance of a lean jackaroo.

As he came close enough to talk over the rumblings of the background machinery, Adam called to Rebus “I am sure you know why I wanted this meeting. Things are happening. My thoughts are changing.” Adam waited to see the reaction.

Rebus’s lips curled. “I know things are happening Adam and they might not be to our liking.”

Adam wondered who the ‘our’ was.

Rebus was the ultimate public servant. He transcended all the politicians that he came to serve. His longevity was infinite. Theirs was ephemeral.
Adam continued. “I don’t know what is going on behind the scenes but I have got a feeling the public should know about what we are doing. We have established the waste plant. It would be a bit late now to close down an industry that is worth millions and is environmentally and socially responsible. It really would be a bit after the event to try and stop things now. You know, I think if we blow this open, with the right PR, we’ll have public opinion on our side. No need for the secrecy.”

Rebus looked at him carefully. He was close enough for Adam to look straight into his faded blue eyes. The intensity of the blue that reflected intelligence had long since dissipated into a cynical dull blue that oozed malevolence.

“Adam, there are things you don’t understand. As far as this place is concerned politicians don’t need to know about it. The life of a pollie in Australia is very short. Its as short as their attention span. We have new groups that seem to be like the followers of Ralph Nader. You know Nader’s Raider’s of the late sixties. They are environmentally conservative and are gaining force. To expose the site now would be sheer madness. We’ve only just got into full swing in terms of a storage capability. Surely you can see that.”

Adam reflected. “If what we are doing is so responsible why shouldn’t we share it with other people.”

“You don’t understand. The press would have a field day because this has been done so covertly. We would be publically lynched. No they never need to know, not at least in my lifetime. I suspect we should be able to keep this quiet for 25 years if we play the game correctly. Adam don’t start to make me nervous. You have made a lot of money out of this and you are only just thirty aren’t you.”

“Around about that,” responded Adam. “I feel as though I have taken a trip into deceit. I don’t sleep well at night despite the size of the bank balance.”

“That’s your problem my friend. You wrestle with your conscience. But don’t be too self-damning. What you’re doing is in fact noble. We’ve had a lot of help from overseas, especially from your doctor friend in England. He has put a lot of work our way.”
“With a lot of waste from the English nuclear program” added Adam.

“So be it,” said Rebus. “But so what.”

Adam sat on the rocky shelf.

Rebus looked down at him. This was his favourite position. “Adam you had better understand there are not a lot of choices. And I will stay in the caravan tonight. There’s a few things I want to look at tomorrow. I want to talk to some of the aboriginal elders about a few little concerns. And then I want to head back late tomorrow afternoon for Adelaide. You need to give me some sort of definite assurance that you are not going to go soft on me otherwise other strategies will come into play.”

“What do you mean by other strategies,” said Adam.

There was a silence. Then Rebus added “I will talk about that tomorrow. I will see you here around four tomorrow afternoon.”

Rebus slipped out of the light into the shadows of the walls of the cave and disappeared into the void out of the doorway. His reptilian exit disturbed Adam. Adam waited a few moments and then he also left through the doorway into the darkness and out of the blinding light.

His eyes adjusted to the outside darkness and he was amazed to notice the high levels of illumination. The clear sky was studded with stars that didn’t sparkle, they gleamed. A new moon was enough to cast a soft glow over the landscape. He wandered along one of the small sandy tracks that led away from the main entrance. His eyes, now accustomed to the softer light outside of the cavern, suddenly caught the slash of a meteor as it cut through the night sky. The open doorway of the cavern cast a sharp shaft of light that cut into the night sky. It must have been visible for miles. Adam realised he had progressed a long way in a short time. His ambition had been flooded with this successful enterprise. But he felt he was at a point where a major life decision had to be made. The plaintiff cry of a dingo shared his thought.

Cry of a dingo
The cry of the dingo reverberated in Adam’s mind all evening. He went to sleep with the lonely call clinging to his soul, suggesting to him his troubled state needed addressing.

“Well what does the dingo think” he mumbled to himself. “What a great achievement would it be for man to be able to talk to animals. To understand the hubris. God I’m starting to sound like Dr Doolittle.”

He had a sleepless night in his caravan that was parked not far from Rebus’s. In the morning he took off on a trail bike with a head full of confusion. The early morning sun already had a sting. His mind dipping deeper into his torment, he let go his conscience. Soon he became lost in the desert dunes. He raced to the top of a red mound of barren sand, briefly thinking how Mars might look on its surface. His bike came to an abrupt stop as the front wheel struck a half hidden root from a straggly bush. He was thrown to the ground but not hurt. He lay on the ground and gazed into the blue sky. At that time a revelation came to him. He would go on a live national television show revealing the location and purpose of his underground installation and the sources of his financial backing. He knew that this would bring an immediate and negative response from the government department that was involved. The overseas investors who had supported the whole project could be furious.

“I will appeal to Australia’s sense of responsibility” he said to himself. “I will reveal to them my cynicism and why I decided to amass money in Australia. I will clear my conscience. A full confession.”

That evening he had his meeting in the cavern with Rebus. It became immediately clear that Rebus did not share his thoughts on either the forgiveness or the apathy of the Australian public. They would immediately suspend the operation here. They would close the place down. They would bury this repository in bureaucracy.

“And you my friend will lose everything you’ve got.” He pointed his finger at Adam. “Adam you have to disappear. This place is going to survive even if you don’t. The strongest and best advice I can give you is to take some time out. Forget this operation exists. Forget everything that you have been involved in. The only memory I want you to have of this place is the bank account. In fact my friend I have a document here for you to sign. It
relinquishes you of all ownership of this venture and it pays into your account two million dollars. A very substantial amount for someone of your age. I strongly urge you to accept and sign.

There won’t be any more royalties. There won’t be any more payments to you. Just accept this one offer and disappear. You’ve never liked Adelaide. You like Sydney. Why don’t you go live on the beach there for a while? Become a wealthy beach bum. Invest some of the money in another venture. Fast food is the way of the future you’ve said often enough; try that.”

Adam was about to protest, demand his rights, assert his individuality; challenge the authority of this mediocre public servant. But then he noticed four burly and menacing figures in grey flannel suits as non-descript looking as Rebus himself (when he was in Adelaide), entering through the front door. He did not feel confident of a successful outcome if there was a confrontation with these people. He had been sufficiently involved with intrigue with what he called the secret public service to know when the game was up.

He had youth on his side with an almost infinite future of potential, substantiated with the wealth that he could have with a flick of his hand. A signature was all that was needed. He had visited Bondi Beach and thoroughly enjoyed it. Fast food was an interesting concept. It had none of the deleterious connotations of nuclear waste.

He looked once straight into the eyes of Rebus, grabbed what was being offered to him and signed the document. He walked out of the cave into the afternoon sun. It burnt his already deeply tanned face. With one look back he headed towards the caravan and the car park. ‘Onward forever’ he shouted and climbed into the car. He pushed hard onto the accelerator and dropped the clutch out quickly. A cloud of red sand was a signature of departure. Adam would leave Adelaide forever.
Appendix 3: Two Novels by d’ettut

Presented as a separate document package

- Greenwars (d’ettut 1998)
- Pie Square (d’ettut 2000)