The Zero Aspiration,
The Maintenance of a Dangerous Idea

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1 Autobiographical detail is attached at appendix 2.

1.0 Introduction

It seems like the world is in love with 'zero'. Everywhere we go the fad word 'zero' is there. We drink it, shop at it, locate by it and talk about it. You can take a zero diet, join a zero waste campaign, buy a zero motorbike and eat zero food. However, some industries more than others seem to be more in love with and preoccupied with the word 'zero' than others. In mining, building and construction it seems the love affair with zero is most intense. Catch a plane and walk about the airport terminal or member's lounges in Perth or Brisbane and you will see the word 'zero' embroidered and emblazoned on many shirts and jackets. You will see targets for zero, towards zero, goals of zero, visions for zero, mantras about zero and artefacts on walls extoling the virtues of 'zero'. Zero harm has become the new unquestioned mantra and safety ideology for mining and construction industries.

Of course there is no zero, there is no nothing. The can of Zero you drink actually has sugar in it, as well as a multitude of other carcinogens. The BP company that bragged about 'zero harm' in 2010, killed 11 people, injured 17 others and caused the largest marine spill in history (The Deepwater Horizon One disaster released 4.9 million barrels of crude oil into the Mexico Gulf, poisoning its waters for countless years). You can go to *ground zero* in New York after 9/11 and there is still something there.

There are government departments that badge their work with 'zero' and offer 'zero harm at work leadership programs'. (http://www.deir.qld.gov.au/workplace/zeroharm/index.htm accessed 20.7.12). Organisations now advertise for 'Zero Harm Managers' and Woolworths run a 'Destination Zero' campaign nationally across their business.

Last time I was in Adelaide I saw a shop in Glenelg called 'Zero" expecting it to have nothing in it, but it was full of merchandise. 'Point Zero' in Perth is the GPO. We are so familiar with the language of 'zero' and yet rarely question how such language primes in our thinking.

Have you ever had the old argument with someone about their birthdate or the beginning of the new millennium? It's the old 00 vs 01 debate. When we start counting forward, we don't start with zero, we start 'one, two, three' and yet when we count down, we end on zero. The first hour of the day starts at zero seconds past midnight and the second hour starts at 1am. Though we count in ordinals we mark our thinking about time in cardinals.[2]

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[2] A Cardinal Number is a number that says how many of something there are, such as one, two, three, four, five. A Cardinal Number answers the question 'How Many?' An Ordinal Number is a number that tells the position of something in a list. 1st, 2nd, 3rd, 4th, 5th etc. A Nominal Number is a number used only as a name, or to identify something (not as an actual value or position)

Figure 1. Zero shop in Glenelg, South Australia

Figure 2. Point Zero in Perth CBD

1.1 Key Questions

This paper is guided by a range of key questions, these are:

- What is the fascination with zero and why is the language of 'zero' so attractive to so many?

- Does the language of 'zero' make any difference?

- Is it a harmless neutral concept that doesn't really matter?

- Does 'zero' language inspire and motivate people?

- Could it be possible that the language and discourse of 'zero' is insidious and dangerous?

- If I set a goal that is unachievable or perceived to be unachievable, do I really think people will give all their effort in pursuing it?

- Does a high jumper improve by setting the bar at the world record height first up, or by setting the bar at a height that is just beyond reach then repeatedly trying until they achieve the small success of jumping over the bar, then moving slightly higher again?

- If I do not believe in God, does this automatically mean I believe in the Devil? Similarly, if I do not believe in Zero Harm, does this mean I endorse harm?

- Could it be that on the surface of things the mantra of 'zero' is naively badged as positive yet the by-products of such cultural discourse[3] can be negative?

- Is the language of 'zero' not only unconsciously priming workers to fail but creating a cultural discourse that counter-intuitively drives people away from the very things it desires?

These questions will be addressed in this paper.

Most of the arguments for 'zero harm' are based on a black and white binary opposition argument and simplistic understanding of goal setting. The argument is: there can be no goal for harm that makes sense so the only goal can be for zero harm. I call this 'the binary opposition argument'.

Most of the arguments against the notion of 'zero harm' are based on the incongruity of the absolute of zero with human limitation and imperfection. I call this argument 'the incongruity argument'.

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[3] Discourse: developed by Michael Foucault. The transmission of power in systems of thoughts composed of ideas, attitudes, courses of action, beliefs and practices that systematically construct the subjects and the worlds of which they speak.

This paper proposes that the language and concept of zero harm has now taken on the nature of an ideology[4]. The paper seeks to add to the debate on the validity of zero harm with some new discussion based on research into the psychology and culture of risk.

The purpose of the paper is to put forward new concerns about zero harm ideology, zero harm language and its affects of safety culture and how people understand risk. However, the author is not naïve enough to think that the argument of this paper will make much difference to the religious fervour and conviction of zero harm believers. One of the arguments of this paper is that the zero harm ideology has now taken on a somewhat religious fundamentalist[5] fervour. Once an ideology takes on such a fundamentalist identity it is highly unlikely that any argument will affect belief. Indeed, it is a risk that more argument such as espoused in this paper, will simply harden religious fervour through the dynamic of cognitive dissonance[6].

Regardless of this risk, it is important to articulate the arguments of this paper for those who feel intimidated by the ideological strength of zero harm proponents and zero harm fundamentalism. However, no amount of evidence about the foundations or nature of various cults and religious groups in the past has tended to sway belief and, it is unlikely that much will change in the intimidation of zero harm fundamentalism on the general population in the mining and construction industries.

This paper seeks to show that the 'zero harm' concept, 'zero harm' language and zero harm ideology undermine safety culture in organisations. The paper discusses issues to do with: safety culture, language, motivation, goal setting, binary opposition, unconscious priming, cognitive dissonance, counter-intuitive dynamics and survey evidence on zero harm believability and ownership.

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[4] By "ideology" I mean a worldview and disposition in faith/belief. An ideology is to be understood as that synthesis of beliefs within a culture which (not withstanding its degree of inner consistency, its degree of command of social allegiance, the degree of sophisticated social understanding of its social ramifications, nor its rational adequacy as an interpretation of reality), defines answers for a society to problems of the meaning of reality, and tends to commit such society to action consonant with these.

[5] Fundamentalism: originally coined in reference to a rigid theological movement in the USA in 1905 upholding the literal interpretation of the Bible. More generally, fundamentalism refers to rigid faith like black and white thinking and actions on issues. Moreso, fundamentalism indicates a closed mindedness and inability to countenance debate and a vigorous energy devoted to indoctrination and censorship.

[6] Cognitive Dissonance: developed by Leon Festinger. Refers to the mental gymnastics required to maintain consistency in the light of contradicting evidence. Cognitive dissonance is concerned with situations which confront groups holding strong convictions when confronted with clear and undeniable disproof of those convictions. The decision making which follows denies the evidence and confirms its opposite. Cognitive dissonance is most observable in religious groups and cults, where despite all evidence, belief is strengthened.

Whilst this paper is primarily focused on safety it is important to realise that this discussion of zero extends way beyond just safety and risk. As the issue of zero and risk is discussed it is important to remember how other areas of business such as quality, sustainability, environment, management and health might also be influenced by this ideology.

2.0 The History of Zero

The concept and language of zero has an interesting history. For ancient people the idea of zero, the primal void, was foreign and scary. Research into the development of mathematics will show that some of the most ancient counting systems had no zero. It's amazing to think that the Egyptians built the pyramids without a zero in their numbering system. It wasn't until the Babylonians in 300BC that a space was created to represent an empty space. So, zero started as a placeholder and was thought of as nothing more, it was merely a symbol for a blank place on an abacus. Seife (2000, p. 15) comments:

> A zero in a string of digits takes its meaning from some other digit to its left. On its own, it meant … nothing. Zero was a digit, not a number. It had no value.

It is hard to imagine today that people could fear zero, but the Romans and Greeks did. The fear of zero went much deeper than just a fear of the void and chaos, the properties of zero we inexplicable and mysterious. Add a number to itself and it changes, but add zero to itself and nothing changes. This violates the fundamental axioms of Archimedes. Zero doesn't make anything bigger if you add it to a number and what is more mysterious if you multiply and existing number by zero it takes it back to zero. In the minds of the Greeks, the idea of zero destroyed the logic of a number line and order. The Greeks saw that if you multiplied or divided by zero you destroyed the entire foundation of logic and mathematics. The Greeks understood that this concept of zero was more than just a number, it was a philosophy which threatened the logic of western thinking established by Pythagoras, Aristotle and Ptolemy.

The idea of 'the void' is also central to religion and theology and was also a source of why zero was problematic. In Christian and Muslim religions it is believed that God created the universe out of the void, a doctrine that rejects Aristotle's hatred of the void. It was in the East, in the Indian and Arabic numerical systems that zero most easily found a home. However, it wasn't until the Renaissance that the West began to embrace the idea and philosophy of zero. It was ultimately through trade with the East that zero came solidly into the Western numerical system and thinking. Zero and infinity were at the very centre of the Renaissance, it was a battle between the old Aristotelian philosophy and thinkers like Copernicus and Galileo.

The development of calculus by Isaac Newton gave rise to new thinking about zero. Calculus operated on a new set of laws that seemed illogical, yet they worked, that is, they proved true upon its own assumptions. However, it wasn't until after the French Revolution that mathematicians would establish that zero and infinity were the two sides of the same coin, they were both

equal and opposite, yin and yang. Infinity and zero are essential to mathematics.

It wasn't until Lord Kelvin in 1848 that physicists postulated the idea of 'the void' did not happen at zero. Kelvin posed the question: at what point did all gas cease to exist and occupy negative space? At what point did all atoms cease to move and there was no energy at all? Kelvin discovered the idea of absolute zero, the state where a container of gas has been drained of all its energy. Absolute zero was defined by Kelvin at – 273.15 degrees Celsius, the theoretical temperature at which entropy reaches its minimum value. According to the laws of thermodynamics absolute zero is an unattainable goal. Absolute zero cannot be reached using thermodynamic means, this is because a system of absolute zero still possesses quantum mechanical zero-point energy, the energy of its ground state. The kinetic energy of the ground state cannot be removed.

The concept of zero, like infinity is an absolute. In absolutes there is no movement, no flexibility and no life. At least in science thus far we have been unable to demonstrate that nothingness is possible. In absolutes there is only infallibility, perfection and rigidity. It might also be added that ideologies also take on the properties of absolutes so, a zero harm ideology cannot think or entertain the validity of ideas outside of itself. Robinson (2011) calls the inability to consider options outside of one's own worldview as 'toxic logic'. Toxic logic is one of the clear identifiers in fundamentalism and indoctrination.

3.0 The Zero Harm Argument

The concept of zero harm is now fixed in the identity of many companies. In many circumstances the concept of zero harm has become an unquestioned (and not to be debated) concept. Many people write to me and converse with me stating that they are not allowed (in their companies) to contest, challenge or say anything negative about zero harm. Such a climate is evidence of fear. Enforced silence, fear of debate and blind indoctrination are the essentials of fundamentalism[7].

One of the best places to observe at least some debate about zero harm is in the social media pages of LinkedIn. The following quotes represent the most popular conceptual thinking and arguments regarding zero harm as extracted from LinkedIn media. (As these quotes come from social media, no attribution to source will be applied as permission for research has not been sought).

Quote 1

> People are trained to achieve the target they are set - therefore they will achieve any number if that number is not zero. Any target other than zero means you have a company policy to achieve SOME harm - clearly unacceptable, and possibly negligent.

Quote 2

> That same type of reasoning is used in quite a few mining companies - that Zero Harm doesn't necessarily mean zero injuries or near misses, it just means

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[7] For a full understanding of fundamentalism see Appendix 1 as selected from my PhD thesis.

achieving your targets or goals of "harm". I've been working with a company here in Aus and they define zero harm for next year as a 25% reduction in injuries.

Quote 3

I have a slight disagreement with that way of thinking coming from the working face - when the company says "Zero", a lot of people in the mine take that to mean the number zero, and hence find the goal a little hard to swallow (like the teams would have in your manufacturing example). Management understand well enough that Zero Harm doesn't necessarily mean zero, but I'm not sure if they permeates all the way down.

Quote 4

Philosophically, you are on a hiding to nothing if you decry these "zero harm" goals. It's better to sit back and realise that it is an objective, nothing more. It is statement of a desired state of affairs. Similarly, "all accidents are preventable" is a statement of motivation. We all recognise that socially and economically, it is currently impossible to achieve. However, the value of the statement is that it provokes thought and action in relation to changes of policies, processes, procedures and behaviours that DOES have a positive influence on reducing risk. Forget about the statistics, it is a philosophy and that is its value. Treat it in that way, and it's a useful statement.

Quote 5

Still, as an attitude, I think that all accidents are preventable gives people the right mindset.

Quote 6

As safety practitioners, we all respect human life and we all want to see zero injuries - at least I do. By advocating against the "zero" concept, I am not advocating ANYONE get hurt or accepting that anyone be injured.

Quote 7

Zero Harm is the TARGET we all try to achieve. What it means to me is that we will not ever accept any harm as "part of the job". It's continual improvement, which is why some companies/professionals have a problem with it - they never achieve it (no company I've worked for has yet).

Quote 8

Am interested that there is very academic thread in this debate. I simplify the zero harm target to my people when running jobs: IT IS YOUR DUTY OF CARE TO LOOK OUT FOR YOURSELF AND THE REST OF US. IF YOU SEE A HAZARD FIX IT AND/OR REPORT IT. MANAGERS MUST FIX THE HAZARDS. Simple. With ALL the team WORKING as a TEAM there is no need for the academic KRI, KPI, KWH measurements and so on. Do the job safely, be aware of the hazards and eliminate/make them safe. Get down to earth again.

Quote 9

Zero Harm is a great aim, if it implemented correctly. Unfortunety it is the mantra of many companies, without a lot of substance behind it, so as various people have commented previously, this can drive reporting down, which will provide nice figures, but we are still hurting people.

Quote 10

> We shouldn't see Zero Harm as the target but as the philosophy, the Nirvana, the Heaven or what have you. The beautiful place to be.
> It is achievable if we believe it and we should strive every day to get there.
>
> The targets set to guide us down the long road there should be practically leading us towards that destination one step at a time and once achieved they trigger the bar to be raised. That way we can track the journey and understand our successes and failures.

The common approach in the language about zero harm is that it is a viewed as goal, a mindset, a target, a desire, an aspiration, a commitment and a vision. For those who are concerned about the absolutist nature of the language of zero there are often modifications such as, 'think zero harm', 'toward zero harm', 'striving for zero harm' or 'steps towards zero harm'.

Some companies just put it all out on the table, zero harm means: 'Zero Harm means zero injuries, zero environmental damage and zero equipment damage' (BIS Industries http://www.bislimited.com/forms/sd_zeroharm.aspx accessed 13 July 2012).

Some companies describe zero harm as a 'platform on which we do business'. There are zero harm training programs, agencies and consultancy groups that even prescribe a 'zero harm code of practice'. Companies have 'zero harm charters', 'zero harm clubs' and 'zero harm policies'. There are countless offers on the Internet of 'free zero harm resources' and 'zero harm training' programs. It seems if you badge something as 'zero harm' it will be accepted in the mainstream of safety and risk as both good and transformational. As for describing zero harm as 'the Nirvana' or 'Heaven' (quote 10), this is indeed a strong connection to the religious nature of this ideological position. It should be noted that the only way to achieve Nirvana or Heaven is to leave this earthy life. The idea that zero is achievable by faith is the same argument put forward by faith healers and Pentecostal Christians. There is little difference between some organisations who use marketing language that 'guarantees' zero harm and faith healers who guarantee miracle cures.

Whilst there are some critics of zero harm, they are few indeed, to debate the mantra and criticize the concept often incurs ridicule, silence, dismissal or being ostracized.

4.0 Trends in Zero Harm Culture and Marketing

Recent trends in the marketing of 'zero harm' indicate that the words 'zero harm' have begun to be substituted for the word 'safety'. So, the extent of the ideological conversion has actually has lead to the redefinition of the meaning of the word 'safety'[8]. What an extraordinary development.

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[8] The word safety means: … the condition of being protected from or unlikely to cause danger, risk, or injury: *they should leave for their own safety | the survivors were airlifted to safety*. [as modifier] denoting something designed to prevent injury or damage: *a safety barrier | a safety helmet*.

The following job advertisement exemplifies this change in meaning and redefinition process. Such 'spin' generation and reframing in the past has been more the domain of political and religious organisations but not so, now enter mining and construction into the generation of new meaning cultural discourse.
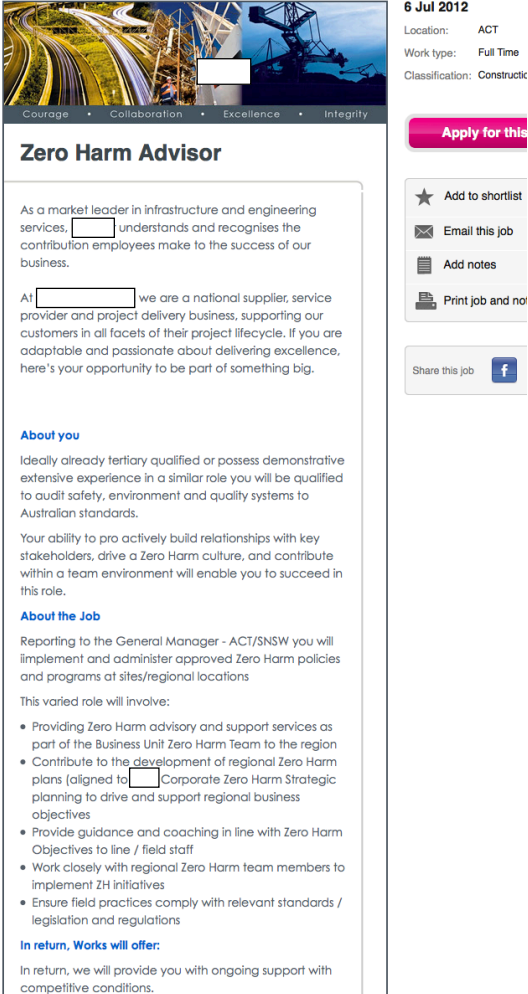
Examine the advertisement at figure 3 (easily located on seek.com.au). A simple analysis will show that the word 'safety' appears nowhere in the advertisement. If successful the new advisor is not an advisor in safety but an advisor in 'zero harm', administering 'zero harm policies', 'zero harm plans' and implementing 'zero harm initiatives'. Presumable the applicant will have a degree in Zero Harm? Is that perhaps a B.Zh?

How long will it take for people in this organization to not be wearing 'safety' hard hats but wear 'zero harm hard hats? I wonder if they don't have safety committees but 'zero harm committees'? Further, would they have 'zero harm walks', 'zero harm' observations and 'zero harm' PPE?

Why this need for redefinition and retraction of the word 'safety'? Obviously because the meaning of safety accepts the possibility of unforeseen risk, that is, it's meaning is not absolute. (the name of the company has been covered for obvious reasons but other companies are now advertising in such a way).

Figure 3. Advertisement for a Zero Harm Advisor on seek.com.au

It seems that there is no limit to the way the language of 'zero harm' is being used. I await with further fascination the ongoing absurdity in cultural discourse and use of zero language in this way. This development is truly evidence of an ideological and fundamentalist driven thought process.

Recently, in quite a number of marketing strategies for zero harm the language has taken on a religious nature. Language of 'one way', 'zero harm commitment', 'zero harm hope', 'zero harm aspiration', 'think zero harm everyday', 'zero tolerance', 'zero harm ethic and intent', 'zero harm commandments', 'faith in zero harm' and 'zero harm belief' could all be found in forms of evangelical fundamentalism.

If one wants to find out if zero harm ideology is being practiced in a fundamentalist way in an organisation, just criticize the concept and wait for the response. If you incur the quashing of debate, inquisition and fear, you will know just how strong the religious fundamentalist commitment is. If you

are allowed some sense of scepticism or debate then you can deem that zero harm has yet to reach the peak of religious fervor in that organization.

The fact that the word 'safety' has been removed and substituted by 'zero harm' in this job advertisement (figure 3) shows exactly how language and redefinition of language is critical to cultural formation[9]. This evolution reinforces the point to be made later in this paper that language is a primary carrier of cultural meaning. If one wants to cultivate a 'zero harm' organization and 'zero harm' culture then the word 'safety' has to go. Similarly, if one wants an open organisation characterized by tolerance and learning, then the absolute of 'zero' has to go.

However, before discussing my contribution to the debate about zero harm in this paper, it is important to summarise the current arguments proposed against the concept and language of zero harm.

5.0 Common Criticisms of Zero Harm

There are a number of critics of zero harm and their arguments are summarized below.

5.1 Tom Gardner - Zero Harm – Hype or Hope?

(http://zeroharm.info/2011/02/11/zero-harm-hype-or-hope/ accessed 13 July 2012)

Argument – Zero harm needs to be a reality and means what it says or if modified becomes meaningless. As such it is no more than marketing hype.

5.2 Corrie Pitzer - Zero Harm is a False Ethic

(http://sheqafrica.com/zero-harm/ accessed 13 July 2012)

Argument - Safety management remains stuck in the ideas of Frederick Taylor's 'scientific management'. Corrie proposes eleven fallacies about zero harm for consideration, these are:

Banning risky behaviour' is a fallacy

Fallacy: Risk-taking behaviour is the root of business evil, and could be banned.
In fact, business is driven by harnessing risk.

'Identify incident causes' is a fallacy

Fallacy: incident causes are identifiable and teach us to prevent similar incidents.
In fact, the exact combination of direct causes and unique pathways of any incident are never repeated.

'Safety rules are productive' is a fallacy

Fallacy: safety rules support productivity. In fact, there is no causal link.

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[9] For further understanding of the characteristics of fundamentalism see Long, R., (2012) http://www.safetyrisk.com.au/2012/01/10/safety-fundamentalism/

'Incident rates prove safety' is a fallacy

Fallacy: incident measurements prove safety levels. In fact, accident and incident rates result from luck, and the measurement protocol.

'Punishment and reward' are fallacies

Fallacy: 'safety' graphs are a basis for reward and punishment of workers. In fact, rewards support production procedures, but destroy safety management. Rewards are incentives to conceal incidents and distort behaviour towards the 'flavour of the month', making a farce or 'game show' of safety, and detracting from trust in management.

'Zero aspiration' is a fallacy

Fallacy: 'zero loss incidents' or 'zero harm' is a morally correct motto, equal to a commandment. In fact, if business and labour did agree on that moral imperative, every organisation would be bound by law to spend at least half its profit on safety. We could automate all operations with robots.

Failures occur even in nature, due to change

James Reason wrote that "zero conveys a dangerous misrepresentation" of the realities of risk: the illusion "that your safety endeavours will end in a decisive victory one day."

'Zero motto' is a fallacy

Fallacy: 'Nobody gets hurt' or 'Safety is our core value' or 'The goal is zero'. In fact, workers understand that the glib and cute motto is false. False slogans merely accuse people. Family photos on posters accuse workers of not caring for their families. Worse, 'zero' slogans accuse workers as 'unbelievers' and induce guilt.

'Rules' are fallacies

Fallacy: Safety rules give predictable results and save lives. In fact, the complexity of risk management is proven by our many and diverse interventions. Most rules operate on the traditional 'logic' of a 'hierarchy of controls' as in engineering, or avoidance by procedures, administration, or personal protective equipment, but these are all complex to implement.

The 'human factor' is a fallacy

Fallacy: behavioural safety's success prove that worker behaviour is the problem. In fact, behaviour is caused by many conditions and other antecedents, each subject to change.

Safety management has become false and farcical, and 'zero harm' is the Great Safety Swindle perpetuating rules, systems, cards, trinkets, mottos, measurements, rates, indicators, priorities, commitments. Workers know all this as 'PowerPoint slides safety'.

Perhaps Corrie's best quote is as follows:

Knowing that we could not achieve zero is more motivational than the delusion that we could!

5.3 Phillip Byard - Could 'zero harm' be killing people?

(http://www.ferret.com.au/c/Australian-Exhibitions-Conferences/Could-Zero-

Harm-be-killing-our-people-n867277 Accessed 13 July 2012)

Argument – Byard argues that the concept of zero harm drives a mindset and shifting focus from class 1 injuries to class 3 minor injuries. Byard argues this shifts the primary focus to a disproportionate allocation of resources to minor risk prevention.

5.4 Andrew Douglas - Zero harm a flawed safety concept

(http://www.sia.org.au/browse.aspx?ContentID=issue62_2011-02-22_news1 accessed 13 July 2012)

Argument – 'When you develop a project built toward zero harm which is underpinned by the assumption that all injuries are preventable, you have created a self-imposed reasonably practicable test that cannot be met.'

Douglas' main concern is with practicability but advocates zero harm as a value.

5.5 David Whitfield - Zero harm - Just say no!

(http://www.amsj.com.au/mine-safety-news/training-and-development/814-zero-harm-just-say-no accessed 13 July 2012)

Argument – 'The two basic problems created by using zero harm are that one, it actually damages safety culture, and two it can hide serious underlying safety risks … Zero harm is a negative and absolute term, and should have no place in a modern safety focused workplace. Using zero harm to promote and sell safety harms safety culture and can hide significant underlying safety issues. Stop using it, engage with your workforce and ask them what they want and what they think is important.'

5.6 Kevin Jones – 'Do some good' sounds more effective than achieving "zero harm".

(http://safetyatworkblog.com/2012/05/15/do-some-good-sounds-more-effective-than-achieving-zero-harm/ Accessed 13 July 2012)

Argument - Focusing on the safety positive is what I do as a safety adviser but saying that my job is to "do some good" makes me feel better about my job than if I was minimising the negative, which is what the zero harm descriptor does.

5.7 George Robotham – Zero Harm

(http://www.sia.org.au/forums/showpost.asp?ContentID=43081&ContainerID=2960&TopNodeID=43081 accessed 13 July 2012)

'Zero Harm is warm, fuzzy stuff that is emotionally appealing if not necessarily targetted where it will do the most good … My experience says people spend inordinate effort on the little things but it is rare to find a comprehensive attempt to address the big picture items, Zero Harm just reinforces this tendency'.

5.8 Reflection

Most of the arguments against zero harm are based on the incongruity of the absolute of zero with human limitation and imperfection. Whilst some know there are cultural, sociopsychological and psychological issues associated with the idea of zero harm, none of these arguments really articulate concerns at such a level. The sociological and cultural argument is the contribution to the debate presented in this paper.

However, before we can tackle the discussion about the cultural, sociopsychological and psychological effects of the zero harm concept and language, we need to first look at the nature of binary opposition and goal pursuit.

6.0 Binary Opposities

The absolutist language and advocacy of zero harm is most often premised on an argument from opposites. This argument proposes that zero harm can be the only goal in safety and risk because to deny it would be akin to accepting injuries as allowable. As quote 1 in this paper states: 'Any target other than zero means you have a company policy to achieve SOME harm'. Such an argument is only logical premised on the acceptance of binary opposition in language and goal setting.

Denying or remaining silent on an issue does not mean the endorsement of its opposite. Remaining silent on zero harm doesn't mean the only other choice is fatalism. Why should we think in such binary opposite terms in safety and risk when we don't do so in other walks of life? Why are mining and construction organisations so constrained by thinking in binary opposition?

Before I continue the discussion we need to explore more about binary opposition and what it means. Binary opposition is a system by which (in language and thought) two theoretical opposites are strictly defined and set off against one another. Binary opposition understands the world in terms of two mutually exclusive terms, such as on and off, up and down, left and right. This is a fundamentalist way of thinking, it gains its identity from its opposite.

Binary opposition states that if you deny an assertion, you must therefore affirm its opposite. Binary thinking proposes that if one doesn't believe in god, then you must believe in the devil. Binary thinking proposes that, if you don't support 'the war on terror', you are a terrorist. Binary opposition thinking proposes that if you don't support gay marriage, you must be homophobic. Binary opposition thinking proposes that if you don't support the carbon tax you must be an environmental vandal. Binary opposition thinking proposes that if don't advocate for zero harm you must be an advocate for injury.

The binary opposition argument often articulates its strategy with such confidence when it proposes that the only other way of thinking to zero harm is to accept three deaths or two injuries, or a little injury as the only other alternative. Several video presentations on YouTube are excellent examples of such thinking. (Is Zero Harm Possible?

http://www.youtube.com/watch?feature=player_embedded&v=UYwPMIpXMmM#!; Zero Harm Message. http://www.youtube.com/watch?v=Q9OA23lD9_0, Accessed 25 July 2012). It is inconsistent to use this argument only in the field of safety and not apply the same logic in leadership and management.

I am quite happy to be silent on zero harm but this doesn't mean I endorse or approve of injury. I can desire that no one be injured but don't need the language of absolutes to articulate my view. Indeed, I think my approach is both more honest with language and cultural discourse[10] and much more motivational if I omit such language from my cultural discourse. What is most interesting in observing experts in medicine, mental health, addictions, psychological injury, faith-based organisations or any of the human helping professions, there is no discussion of 'zero' but harm minimization. Does this mean they all want to hurt people?

The problem with the binary opposition position is that it cannot imagine a third or indeed, alternative way. Binary opposition is a rationalist argument that supposes the only opposition is an irrational one. In fact, there are other positions to hold that are non-rational but not irrational. Non-rational or arational argument particularly addresses the psychological and cultural dimension of human character. Arational approaches to thinking are where much of our unconscious functioning is situated and where intuition, gut knowledge and implicit knowledge are exercised (Hassim, 2005). These forms of knowledge are how most human judgment and decision making is made. Therefore we need a form of goal seeting and culture in safety that accommodates this dimension.   Arational thinking precedes and functions underneath rationalist thinking as is illustrated in figure 4.

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[10] It is important to note that cultural discourse infers much more than just the language of a culture. Cultural discourse means: the transmission of power in systems of thoughts composed of ideas, attitudes, courses of action, beliefs and practices that systematically construct the subjects and the worlds of which they speak'.

Figure 4. Rationalist, irrational and arational thinking positions.
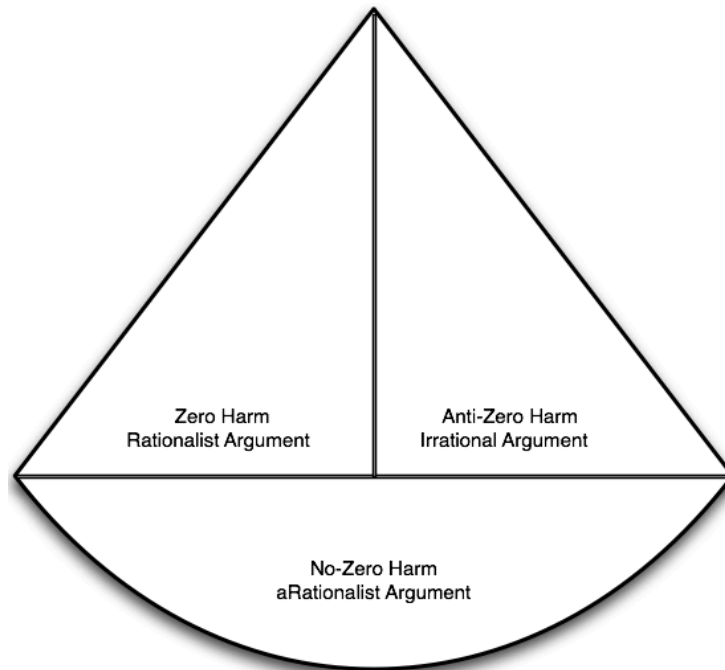
If binary opposition thinking is to be applied consistently by its advocates then if one believes there can be zero harm then 'all accidents are preventable'. If this is so then one must believe that all risk can be controlled. If this is the case, then one must not believe in uncertainty and deny the very meaning of the word 'risk'. This would make people who assert such conclusions as 'risk fundamentalists'. Consistency in binary opposition cannot be selective.

The expression and belief 'all accidents are preventable' has also become part of the zero harm ideology. This expression is now part of the absolutist discourse of zero harm organisations, redefining the meaning of the word 'risk'. Recently in a First Aid competition in Queensland the winners called 'Risk Adverse' were proudly announced as the winners (http://www.safetyculture.com.au/news/index.php/07/team-risk-adverse-wins-queensland-rail-first-aid-challenge-regional-final/ accessed 29 July 2012). Risk aversion is anathema to learning, adventure, inspiration, creativity, leadership and living, how could one think that such a concept was good?

I am quite happy to not accept the assertion that all 'accidents are preventable' and this does not make me fatalistic. I am quite happy to not talk about zero harm but this does not mean I desire injury. There are more than just two ways address the issue of harm at work, there is more to thinking than just being black or white.

Of course, there are many practical and far more inspirational alternatives to the nonsense statement: 'all accidents are preventable'. Such a statement is nonsense because it denies the realities of risk, human limitation, learning by mistakes and the fundamentals of learning. The whole scientific notion of 'trial

and error' is basic to how humans learn through experience. Hallinan (2009) chronicles the amazing inventions and advances in human history that have been developed by mistake. There can be no learning without risk, there can be no creativity or innovation without uncertainty.

7.0 Goal Strategy

It's now important to discuss goal setting and goal pursuit and their relevance for the debate about zero harm.

Zero harm, if set as a goal is an avoidance goal. One knows goal success by the absence of something rather than the presence of something. Avoidance goals are not only not positive but are not inspirational (Moskowitz, and Grant, 2009). Avoidance goals tend to be punitive in nature. Performance goals are much more positive and successful. In the framework of understanding motivation and learning leaders should be talking much more in cultural discourse about 'keeping people safe' than 'preventing harm'. Later discussion shows how such discourse 'primes' others. Why does the safety community think that avoidance goals are so inspirational?

Again, we need not think or talk in binary opposites. I do not 'plan' for accidents just because I deny the statement 'all accidents are preventable'. Our goal formation and thinking should be far more sophisticated than this binary nonsense. The denial of the zero goal is not an assertion that I welcome injuries. I do not accept accidents but chose not to talk in the absolutes of zero. Those who commit to zero in binary opposition thinking, then have to carry on with the most absurd semantic gymnastics and redefinition to try and make reality fit their discourse.

We need to be far more intelligent in the way we influence culture than what is offered by the nonsense of binary opposition. A story from Galilee[11] might be helpful.

> When I started the Galilee School for high-risk young people in 1997 I accepted many young people who had very sad and dysfunctional lives. Apart from 6 heroin addicts, 10 homeless young people, 4 violent sexual predators, 5 habitual criminals, I accepted the enrolment of two 14 year old boys who has sexually assaulted a dog and killed it. The culture and ethos of the school was critical for its success, so I worked hard to influence language and discourse. The other kids persecuted these two boys by not addressing them by name but rather by calling them 'dog fuckers'. I can't apologise for their offensive language as this is critical to the story and the importance of cultural discourse.
>
> Now, while the statement spoken by the young people was true it was not helpful for the culture and goals of the school. As language is one of the main carriers of culture, I sought to influence such discourse. So, I insisted that such language was not acceptable in Galilee; we did not need to regress to the past or label others just so we could make ourselves look good. I did my insisting through modelling and reframing. I worked hard to eliminate such language in the school and did so by reframing everything in positive performance goals.

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[11] Galilee is a school I founded for high-needs 'at-risk' young people in Canberra that continues to this day.

Then, the kids tried to tag me with the accusation that I therefore accepted the behaviour committed by the two boys. So, here I was teaching young people in a school not think in binary opposition as a critical pathway to establishing a healthy school culture. As long as the school thought in fundamentalist black and white, no one would be helped or break free from many years of victimisation and abuse.

The success of the school speaks for what was achieved by not allowing binary opposition language to dominate the culture.

Some safety experts talk about the importance of a Just Culture and yes, such a focus on reporting is positive. However, we should also be thinking much more about how zero harm binary opposition language in safety drives a Deception Culture. A safety culture that is characterized by scepticism, cynicism, under reporting, lack of debate and fear of openness, is insidious and destructive. If zero harm ideology drives sub-cultural values such as fear, indoctrination, closed-mindedness and censorship then it is indeed dangerous. Moreso, because zero harm ideology often masks itself as being the 'angel of light' in the midst of the 'evil of harm'.

8.0 Goal States

'Rather than measure what we value, we tend to value what we can measure'

It is naïve to believe that goal setting is both simple and objective. How many times have you set a goal only to give up something, to stick to a diet or to make less mistakes and fall back into old habits? The failure of New Year resolutions is testament to the psychological difficulty to set and keep to goals. We set goals all the time consciously and unconsciously. A goal is a desired end state that is constrained by: time, feasibility, other competing goals, motivation, desirability, 'life space', framing and disposition.

Goal setting is complex and multi-dimensional. There are three main goal-states, these are:

1. High-order goals eg. 'I wish to be a better person'
2. Mid-order goals eg. 'I want to give up sugar' and,
3. Low-order goals eg. 'I want to achieve 85% in my mathematics test'.

These three levels of goal-states all command various levels of measurement. Goals also compete against each other. Low-order goals tend to be easily measurable and high-order goals less measureable. Mid-order goals tend to be semi-measureable. Each of these goal-states operate at conscious and unconscious levels. Each goal-state also tends to have either a promotion or prevention focus. These goal-states, levels and foci are represented in Figure 5. *Human Goal States.*

Figure 5. *Human Goal States*
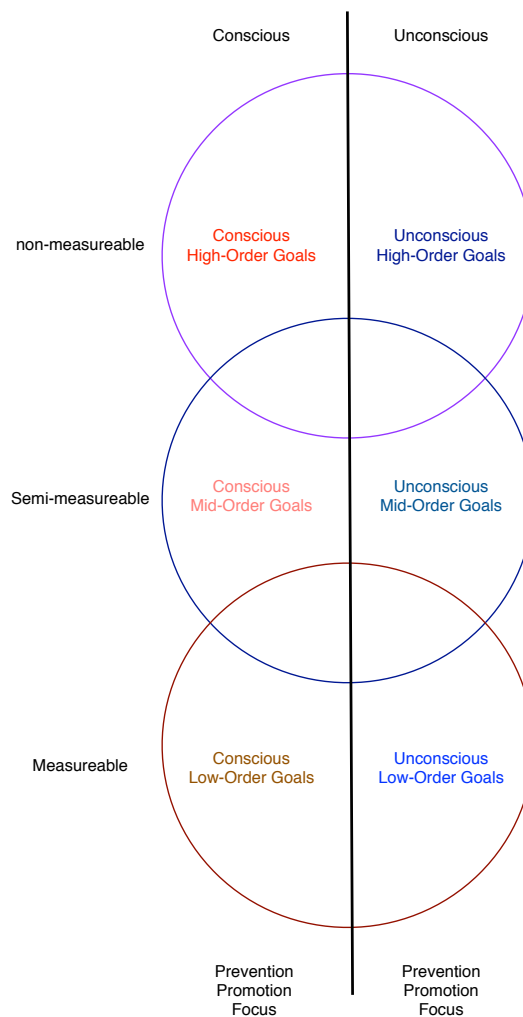
Unconscious and conscious goals are neither good nor bad. However, we must acknowledge that there are times when we surprise ourselves with our own behavior when non-conscious goals are revealed. It was Karl E. Weick (1995) who said: 'How can I know what I believe, until I see what I do'. Weick, like many scholars in social psychology believe that most of human behavior is generated in the un-conscious, not the conscious mind.

Research by Libet, Wagner, Bargh and many experts in neuropsychology show that action and electrical impulses in the brain are slower than bodily action. In other words, most of what we do is sub-consciously and unconsciously generated and we simply attribute the feeling that our mind generated the action, when in fact it could not (based upon the measurement of electrical impulses from the body part to brain). It seems to us that we consciously cause what we do, when the evidence demonstrates that to be far from the case (Bargh, 2007). People often feel like they are causing an act but the evidence shows that the act had already occurred before we had the 'will' to make it happen.

Our unconscious is not only powerful but also difficult to control. If I were to tell you not to think about or visualize black snakes (figure 5) for the next few hours something peculiar happens.

Figure 5. Black Snakes

You have been asked to not think about black snakes (prevention focus) yet before you have finished reading this article, you will think about black snakes again. Indeed, the more we try to suppress thoughts about black snakes, the more that vision returns. It is counter-intuitive but sometimes a preoccupation with suppressing something often activates it. This is how the subversion of prevention and avoidance goals works. This is often the experience of people trying to give up addictions.

So when it comes to goal states it is naïve to think everything is simple and easy. Goal setting, pursuit and activation is both complex and highly subjective. This is why setting a goal like zero harm in a binary opposite bubble is simplistic, as if it doesn't compete with other goals such as learning goals and maturation goals.

The language and discourse of zero harm is neither singular nor non-competing. The language of 'zero harm' as a low-order measureable prevention focused goal also competes with numerous high-order goals such as the pursuit of learning, ethical practice, development and well-being and, the necessity to take risks. All goals interact between goal-states and affect each other.

The focus on a non-promotion focused goal such as zero harm also triggers sub-conscious negativity and resultant scepticism, this is evidenced in the final discussion of this paper on believability. If the by-product of the language and cultural discourse of zero harm is scepticism, cynicism and negativity then the by product is culturally dangerous. Scepticism acts subversively in sub-cultures and erodes the supposed gains of the orthodox culture proposed by CEOs and those who set goal state trajectory.

On many occasions people espouse a goal only to find out later that hidden forces have subverted the goal setting process. We may set a goal to lose 5 kgs in weight in 2 months and this triggers other dynamics of sacrifice, peer dislocation and self-regulation. When goal-state realities influence the diet discipline process, somehow things fall apart. Unconsciously, the very thing we have tried to achieve has become subverted by the by-products of our goal setting. This is represented in *Figure 5. The Subversion of Goals.*

This disruption to our espoused goal trajectory often leads to disappointment and depression when our goal is not realized. Nothing is more deflating than the realization that a goal has been unrealistic. It is then that most people reframe that goal and develop a new view of what they thought they had set out to achieve. If an organisation does not achieve its zero harm goal it has several choices: it sometimes reframes its definition so that the injury and harm doesn't fit reality or deny the reality by cognitive dissonance so that the goal can be maintained despite the evidence that the goal doesn't work.

When people cannot face up to the fact that their goal has failed, they create new delusional excuses and deny that the goal has failed (Festinger, et.al., 1956). Rather than admit that the goal was the problem, they project 'spin' about time factors and reasons why the goal was good but just failed this time, rather than admit the goal is a failed goal. This is most common in how fundamentalist cults deny the reality of unachieved goals.

Figure 6. The Subversion of Goals
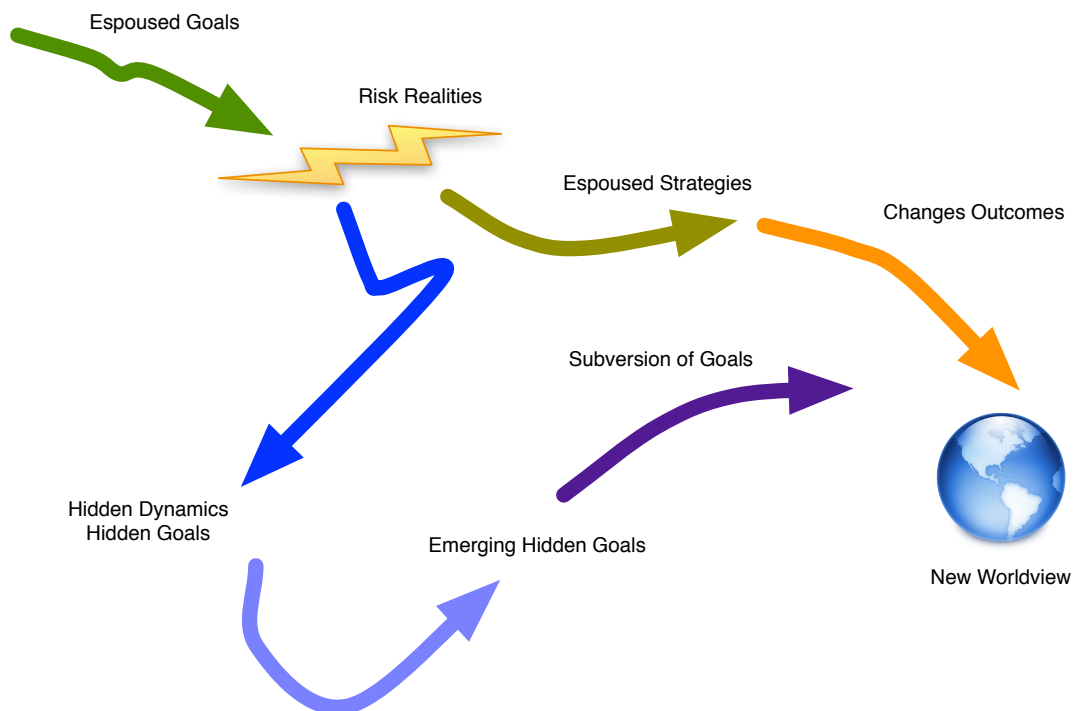
The purpose of this diagram is to show that goals are neither singular nor non-competing. It is important in goal setting to understand the dynamics of competing, subversive and hidden by-product goals.

Where does this leave us with the concept for zero harm? The fact that so many workers don't believe zero as a good goal will be discussed in the final section. The fact is, prevention and avoidance goals like zero harm are more open to goal subversion than promotion goals (Moskowitz, and Grant, 2009). The goal of zero harm actually sets up its own subversion and failure. Every time you don't achieve your goal you demotivate employees to the motivational sense of the goal itself.

Unless the safety community are prepared to be a more sophisticated and less simplistic about goal setting we will continue to fuel scepticism via prevention goals like zero harm, rather than safety promotion in the workplace.

It is strange to observe safety non-leaders as the main group who set an unattainable goal of perfection as a target goal for the organisation and then try to explain why it is motivational by the non-endorsement of its opposite?

9.0 Silences in Safety

Sian Beilock wrote a great book called Choke: What the Secrets of the Brain Reveal About Getting It Right When You Have To. It's a book that helps explain how goals work psychologically and how athlete's 'choke' when they allow wrong messages to get into their head. In sports, there are some things you just don't talk about or think about, that's the key to motivation. This is one of the problems with being the 'favourite' team or individual, psychologically such thinking is poison to success. I have lost count of the times when I was on a team that 'destroyed' the opposition all year, only to lose in the final. Adam Scott's recent 'choke' at the British Open 2012 is similar to Greg Norman's 'choke' in 1996 and demonstrates the importance of not being constrained by the 'tight collar' of avoidance goals. Dobbs, (2012) shows how avoidance goals 'choke' success. There is nothing more damaging to effort than the belief and language that talks about 'having arrived'. One of the great things about Australian culture is its hypersensitivity to 'bragging'.

One of the key skills in communication is respect for silence. Learning to not label silence or argue from silence is one of the key skills of critical thinking (Sloan, 2006; Paul, 1993). Listening and observing silences are just as important as telling and acting. This is the key to not being trapped by binary opposition thinking.

When it comes to influencing, motivating and learning we also know that some things are best not said. We know that some messages are demotivating, or inspire wrongful thinking, some ideas can fill the mind with unproductive ideas or drive sceptical sub-cultures. We see in sport how 'choking' does this. Defeating, negative and uninspiring messages 'prime' athletes for failure, whereas positive and inspiring messages motivate them for success. Mental athletics is just as important in sports as physical athletics.

Good athletes are able to block out bad messages, they just don't need them. This doesn't mean they are naïve or stupid, they know there is such a thing as failure, they just don't need to talk or think about it. Goals that promote failure debilitate people's ability to be motivated and be successful. Athletes, taechers and coaches know the importance of silence. Athletes know that if you fill the airwaves with unattainable perfection goals, that such 'noise' diminishes effort and drives complacency.

When we raise our children we are also careful about silences, we don't introduce ideas into the heads of children because we know some ideas are unethical and non-motivating. It is because we care so much about the things that influence (prime) children that we chose to be silent in some things. This is not censorship but smart education, motivating children for the right things and remaining silent about others. Being silent on things ought not to be opportunity for entrapment by binary black and white logic.

We also know that setting unattainable goals creates depression and anxiety, the moment the goal is not achieved the child knows they are not good enough. Psychologists also know that the absolutes of perfectionism are a criteria for obsessive-compulsive disorder and often shows up as a cause of various addictions (Sack, 2012). Indeed, filling the heads of humans with ideas that they will only be accepted if they are perfect is in itself a delusional avoidance goal. Demands for absolutes and the language of absolutes is demotivating for humans. Let's save the language of gods, for gods.

10.0 Good Goal Setting

If you put a search in Google for good goal setting you will get approximately 22 million results. Look through the first 100 results and see what many scholars, experts, researchers and blogs suggest as an effective and successful way of setting goals.

Every written piece on goal setting demonstrates the need to set achievable and measurable goals. Every paper and presentation stresses the importance of setting goals as a key to motivation, achievement and confidence. Nearly every article mentions the importance of setting SMART Goals. SMART goals are:

S - Specific (or Significant); **M** - Measurable (or Meaningful); **A** - Attainable (or Action-Oriented); **R** - Relevant (or Rewarding); **T** - Time-bound (or Trackable).

The big emphasis in effective goal setting is setting realistic goals to foster motivation. It's only when you achieve a goal that you are motivated to develop, improve and continue with the effort. Nearly every expert in goal setting discusses the relevance of setting goals which are achievable. Moreso, unless we consider the psychology of goals in our goal setting, our goals will remain simplistic and ignorant to by-products of competing goals and the subversion of goals (Moskowitz and Grant, 2009). Unachievable goals drive frustration, cynicism and negativity; that in themselves diminish effort, energy, resilience and persistence. Absolutes are not achievable with humans, only

for machines and gods, and even machines decay and wear out in time. Uncertainty is the fundamental risk challenge for humans, the quest for certainty is a fundamentalist quest for control.

So, with all we know about motivation, learning and humans, why do so many in the risk industry contradict the fundamentals of goal setting? It's as if someone has paid thousands of researchers and experts to devise a scheme for success in undertaking a task (goal setting), then deliberately ignoring it.

One of the major higher order goals for humans is the goal to create, imagine, innovate and learn. Robinson (2009) and Csikszentmihalyi (1990) both argue that unachievable goals and unreal goals take people out of the 'zone' of creativity, imagination and learning.

One of the strange contradictions of the zero harm movement is the dissonance between goal setting and 'lag' indicators. This is what happens. Zero harm advocates set the goal of zero as their aspiration and then document and develop reporting systems to tell them every time they don't achieve it. How demotivational is that? What does such dissonance prime in the workforce?

Proponents of zero harm are yet to demonstrate how an unachievable goal inspires or motivates people to ownership for their own safety and management of risk.

11.0 The Evidence of Belief

Human Dymensions have been conducting the MiProfile© safety culture diagnostic survey since 2007[12]. The survey data base currently exceeds 21,000 participants (across mining, building and construction, manufacturing and government). The survey results establish the following regarding zero harm:

1. Only 35% of the workforce believe in the concept of zero harm.
2. This rate of belief declines if workers come from high risk work areas.
3. Most workers found the lack of definition and redefinition of zero to be confusing.
4. Over 85% of workers believe that zero means nil or nothing.
5. Even though the workforce is 100% committed to safety, they are not committed to the mantra of 'zero harm'.
6. Results show that if time is included in the mix that fewer percentage of people believe in zero harm the further the time period extends eg. Up to 10 years.
7. Results also show that 85% of workers don't know whether Zero Harm is a goal, an action, a process, an activity, an ideal or a practical objective.

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[12] The MiProfile Safety Culture Survey was developed by Dr Long in consultation with numerous academic associates including Prof. Karl E. Weick. The full methodology for the survey tool can be provided on request. An understanding of the MiProfile methodology can be gained by viewing the video on www.humandymensions.com

8. Workers stated that zero harm was not achievable because of:
    a. The nature of high risk work
    b. The bottom line of production priority
    c. Inadequate levels of resourcing
    d. The need to take personal responsibility for safety
    e. Poor quality leadership and supervision
    f. High inclination for 'double speak' and,
9. Most workers felt that safety systems complexity was also a contributing factor to the unbelieveability of zero harm.
10. Most workers believed that people are not willing to confront others and stop unsafe work.

So the evidence shows that the majority of the workforce do not believe in zero harm. This creates a disconnect between the CEO and workers. Workers hear the language and cultural discourse of zero harm and don't believe it. Rather than assisting safety ownership on the ground the very mantra of CEOs is driving sentiment and belief in the opposite direction. This is indeed dangerous.

What is a strange outcome and by-product of the zero harm discourse is that it also promotes a 'zero risk' discourse and this 'chokes' learning and imagination in the workplace. Zero harm discourse also indirectly advocates a 'no mistakes' approach to reporting and learning most commonly enshrined in the mantra 'all accidents are preventable'.

However, further scepticism and cynicism abounds as workers discover that the standard espoused by CEOs is only intended for workers not themselves. When workers make mistakes there must be zero tolerance, when CEOs make mistakes there must be additional share options, forgiveness and tolerance. Unless this divide is overcome, there will simply be more disconnectedness, less belief, more scepticism, cynicism and negativity toward 'so called' vision from on high.

The problem with believability is how it psychologically disconnects people from supposed motivational projections of the zero harm goal itself. Regardless of what proponents suggest, if workers simply don't believe it then scepticism will result.

12.0 The Destructiveness of Scepticism

This issue of believability is fundamental to the notion of ownership. Unless there is growing safety and risk ownership by the workforce the policing of safety to will simply become unaffordable. Without ownership, there can be no real change.

The language of 'zero' primes the workforce into a cycle of cynicism, microscopics and scepticism. Scepticism and cynicism are destructive for creating any sense of ownership for managing risk and safety. Workers who don't 'own' their own safety only act safely when policing is around.

Indirectly and counterintuitively, zero primes the workforce to also accept failure. Failure is primed not only through scepticism but also by the counting of lag indicators as demonstrated failures of the zero goal. This process spontaneously generates a counterintuitive dynamic. It seems odd to some that setting what seems to be an admirable goal, actually drives the very opposite.

Absolute goals, regardless of their excuse as aspirations, break the first rule in the fundamentals of the psychology of goal setting - achievability. The only ones who can talk about zero are gods - Buddha, Jesus and Mohammed. Do managers of organisations set such goals for themselves? I wonder if the managers of zero language in organisations are punished for every management mistake? Perhaps zero managers are inspired by zero language, but the rest of us are human, and are motivated by achievable goals.

The goal of learning is not zero; it's more learning. The goal of learning is not perfection, it is development and maturity. The goal of learning is not the solution to the problem but ownership of the problem. The goal of learning is not the end point but the route and journey. The goal of learning is the process not the goal. Strangely enough if you think about learning this way you might incidentally get ten out of ten. But if you set the goal of learning as ten out of ten, you lose the perspective on learning, put your focus on measurement, 'choke' on the process, and this makes it difficult to learn.

The more the language of failure is used at work, the more workers listen less to the influence of those in authority and listen more to the generalisations on the work floor. So, nod to the bosses, tell them what they want to hear, then once they have left, do what you like. This is the kind of psychological schizophrenia the language of zero creates.

The research shows we can be positively and negatively primed. We know from research in sports science that setting achievable goals and priming the thoughts of sports people makes a huge difference in outcomes. This is called 'response priming' and is all about what is called 'visio-motor priming'. Sports people are assisted by various forms of motivation to visualise what they can achieve. They are not given impossible goals, like run the 100 metres in 5 seconds, but achievable goals such as shaving .03 of a second off a 5000 metre swim.

Choking failure comes from 'paralysis by analysis'. The language of zero drives such microscopic analysis. In a nutshell, paralysis by analysis occurs when people try to control every aspect of what they are doing in an attempt to ensure success. The results are clear, sports psychologists can show conclusively how negative and positive language influence 'choking'. Sometimes you will hear good coaches urging players just to 'enjoy themselves' rather than thinking too much about their score or ambitions. Why don't we believe this applies in the workplace?

13.0 The Absurdity of Commitment to Binary Absolutes Generates 'Selective Zero Harm'

Thinking in binary opposites creates scepticism and dynamics that erode any chance of establishing effective safety culture and risk ownership. Binary oppositional thinking perceives any variation or silence on zero as affirmation of its opposite, that is the desire for injury. The logic works on the idea of contradiction in a simplistic black and white way. If such a logic is adopted this creates huge problems for the zero harm proposition and naturally must lead to the problem of selective zero harm.

Selective zero harm is achieved by the nature of narrow definition. If one only counts certain definitions of harm then it is possible to live in the delusion that no one is being harmed on site. This can only be done by excluding all forms of psychological harm, mental health, social dislocation, psychosocial harm and self harm.

> I was on a plane last week and sat beside a woman who was fidgeting with her phone, I noticed all the scars on her wrists and it reminded me of what I learned from years of work in Galilee. Galilee is a school I founded for high needs young people (12-25 years of age) in Canberra, Australia. The woman on the plane obviously had a history of self harming, in Galilee everyone self harmed.

Self harm is about intentional and unintentional harm with or without suicidal ideation. It was first described in 1913 as self-mutilation, we have since dropped the pejorative expression as we know that such language is not therapeutic or helpful. Self harm varies in intensity from picking, biting, cutting, ingesting, self flagellation, puberty rites, genital mutilation, head banging, body pain marking and constricting. The worst case we had in Galilee was a young woman who used to cut up razor blades with scissors and swallow the pieces and cut up her stomach and intestines. She regularly required hospitalization for internal bleeding and critical mental health care.

It may be hard for some to understand but many forms of self harm are associated with pleasure and satisfaction. The causes are related to depression, anxiety, distress, guilt, eating disorders, bereavement, self-loathing, perfectionism, workplace victimization, harassment and abuse. Self harm is often treated by the acceptance of replacement 'medicated' toxins, prescription drugs. In adulthood we often 'self medicate' on a range of accepted substances of choice most commonly, alcohol and tobacco. The truth is that mental health issues, anxiety and depression are at high levels in our society, as is self harm. Many of us self harm

Self harming is often associated with young people (aged 12-35) but in reality there is an evolution to adulthood in self harming which progresses to various forms of accepted self harm. There are a range of self harming practices which our society approves, some are: religious rites (including genital alterations and flaggelation), alcohol and substance addiction, smoking and obesity. Anyone in the health and welfare industry knows that only harm minimization and tolerance work. People with addictions, psychological concerns and disorders are not motivated by nonsense goals and language of zero. Small measurable and achievable steps are the key to improvement

and motivation. When it comes to self harm we know to set SMART goals and also when to be silent about the attraction of self harm. We know counterintuitively that talk about self-harm needs to be strategic and thoughtful because of psychological by-products.

What is most amusing about nonsense non-human zero harm goals is that such goals promote unrealism and mythology. People preach such zero harm goals (with their own inbuilt psychology of scepticism and cynicism) then leave at morning tea to self harm on cigarettes or sugar. During the day organisations sing the hymns and sermons of nonsense goals then after hours their stressed executives hit the bottle to cope with the pressure of having to work under such nonsense goals. Prescription and 'self medicated' substances are also in high use. And what is the philosophy and values exhibited towards this behaviour, tolerance not intolerance.

Of course the contradictions go much deeper. Recent research by Morris (2012) established that the whole practice of Fly-in Fly-out/Drive-in Drive-out (FIFO/DIDO) Work Practices has injurious consequences for all participants. The mining industry that seems most passionately fixated on zero harm thrives on FIFO/DIDO work practices. Morris' (2012) report shows that such practices are only on the increase so much so that by 2015 it is estimated that 62% of the workforce in the Pilbara will be FIFO/DIDO people.

Whilst I understand the need to build more airports and create more FIFO/DIDO workers let's not imagine that this sits well with the absolutist delusion of zero harm. Morris (2012, p. 8) lists the following harm as a result of FIFO/DIDO work practices as:

Impact on FIFO employees and their families

Amongst the adverse effects suggested in the literature are:

- Increased stress levels and poor health including depression, binge drinking, recreational drug use and obesity;

- Poor quality relationships leading to increased break-ups and divorce;

- Family disruption and stress;

- Reduced social and community interaction by FIFO workers.

- Reduced socialisation by partners;

- Feelings of loneliness and isolation.

… Between 55% and 79% of respondents considered that FIFO based mining operations impact negatively on:

- Housing availability and affordability;

- Local infrastructure;

- Local services;

- Recreational amenities;

- Local employment opportunities;

- Local businesses and the local economy;

- Crime and justice;

- Community safety; and

- Lifestyle.

So the evidence shows that zero harm is indeed 'selective zero harm' which in the end shows that the ideology and mantra becomes a nonsense. No wonder workers don't buy the message. One cannot use the strategy of binary opposite contradiction on one hand to support one's zero harm view and ignore the same logic when applied to seemingly 'invisible' forms of harm on another. The more one fuels this kind of contradiction, the more workers become disconnected, sceptical and cynical about the whole exercise and language. As a consequence, selective zero harm spontaneously generates denial and fosters selective under reporting.

13.0 Framing, Pitching and Priming Language

We finally come to the discussion about the fundamental problem with zero harm discourse and language. Leaders need to be far more sophisticated and astute about blind advocacy of messages than to simply adopts any form of language as if it has no influence on workers. Zero harm language is not neutral and leaders should be far more aware of how such language 'primes' workers psychologically and culturally.

Priming refers to the sometimes passive, subtle and subconscious 'shaping' of people's thinking to receive and extract information. A range of stimuli can 'prime' (affect) people's behaviour and decision making such as: the environment, language, social behaviour of others, peer pressure, fear and sequence of events. The interesting thing about priming is, we are mostly unaware of the way our mind is shaped and influenced by things external to us.

Anything which stimulates our senses can influence the way we are 'primed'. A scene of a quiet running stream, gentle nature sounds, comfortable temperature, soft waves caressing the sand, all have a way of de-stressing us; helping us calm down. When we are primed in this way, it influences our behavior. The colour of a room, the tone of voice, atmospheric temperature, scratching sounds, thrash metal music, the feel of softness on our face, a gentle breeze on a hot day and the noise of screaming children, all affect our mood and decision making. The research overwhelmingly recognises the way framing and priming affect knowledge acquisition and response (Bargh, 2007).

Ambrose Bierce said in his *Devil's Dictionary* (1906): 'to decide, was to succumb to the preponderance of one set of influences over another'. This is why our behaviour changes when we go on holidays, when we sit in a lounge chair after a hard days work and enjoy a drink, and when we hear 'musak' in shops containing subliminal messages. Casinos spend millions of dollars investing in the design of ambient sounds for their venues. If these things didn't change mood and behaviour, why would they do them? All the subliminal messages in shopping centres that stimulate our senses to 'buy'

and 'stay', have been carefully worked out to intentionally 'prime' our subconscious. The words, the signs, the personal greetings when one enters a shop, all influence our positive decision making, just as an unwelcoming, unfriendly shops influence us to leave.

The experimental evidence for the priming of goals, decision making and memory recall is overwhelming. Researchers Moskowitz, Hassin, Claxton, Wegner, Fine, Slovic, and Plous show that mood and decision making, can be easily influenced by external factors, such as language or objects. In a famous experiment Bargh set up people for a job interview in which an interviewee had a chance meeting with a person in the lift. The experiment involved a person with a cup of hot coffee or ice cold coke having their hands full of folders and bags. The unsuspecting interviewee was asked for a favour, to hold the cup whilst the person juggled their belongings. In a post-experiment interview it turns out that the hot or cold temperature had radically influenced the participant's perception of the interviewer. In another experiment the scent of cleaning fluid was filtered through the air conditioning system of an office that influenced people to tidy up when eating at their desk. In a prison dilemma scenario, the presence of a brief case or a back pack on a table, influenced the level of competitiveness in various activities.

A wide variety of environmental triggers have been demonstrated to show that verbal stimuli semantically 'primes' people.

It is a peculiar contradiction that people in the construction industry build structures with carefully designed aesthetic considerations because the designer knows how the building will affect behaviour. Designers know how space distributes power, how colour and shape will influence organisation and security (Soja, 1994). How can construction workers working in cluttered site sheds and bare tin huts not realise this has a part to play in how they behave or are primed on the job? Then managers wander about the job with punitive gaze and harsh language negatively priming the way workers view risk.

We know too that autosuggestion is very powerful. It works in advertising and the media, this is how 'pitching', 'framing' and 'priming' works. Priming is received in the subconscious and transfers in the unconscious to enactment in the conscious (Hassin, 2005).

'Priming' hearts and minds is sometimes intuitive and at other times counterintuitive. *The Gruen Transfer* TV program is a great place to learn about counterintuitive thinking, pitching, framing and priming human behaviour. Advertisers as social psychologists know how thinking can be primed intuitively and counterintuitively. It takes some skill in psychology and social psychology to know when something works counterintuitively in the negative when indeed, the message looks on the surface as if it's a positive. This is the problem with zero harm language, it's non-motivational, non-inspirational and counterintuitively primes workers for failure.

We may think it's wonderful to build up the ego of someone with false hope. We may do so in some grand idea that puffing up their self esteem is always

good. Then, watch them 'crash and burn' when reality hits and the delusion drives them deeper into self-defeating depression.

Autosuggestion is very powerful. We know that news reports about certain behaviours and ideas create 'copycat' behaviour that sometimes 'go viral', like 'planking'. At the height of the 'planking' craze, people were losing their jobs because of copycat behavior. Whilst the reports about planking were intended to be negative, it counterintuitively was attractive. Now that the planking craze and airwaves have gone silent, the behaviour has diminished. This is how 'priming' works, this is why silences make sense.

So when people don't use certain language and are skilled in silences, it is absurd for others to argue that such silence proves ignorance and belief in its opposite. Qantas doesn't use the language of zero harm, does this mean they desire injury? Hospitals don't use the language of zero harm, does this mean they want people harmed? No, they use promotional goals not avoidance goals to drive their vision for safety and management of risk.

When I do onsite coaching of managers and leaders I try to help them listen to the 'silences' as much as to the noises on site. It is just as important to know what is not said and why it is not said, than it is to be alert to what is said. It's relatively easy to observe and hear the visible, these rarely hurt you. It's much more sophisticated and skilled to be able to observe and listen to the invisible.

Cultures that strategically know their silences are more sophisticated than cultures that fill the airwaves with meaningless zero harm noise. Cultures that are full of meaningless slogans and nonsense unattainable mantras 'prime' confusion, create sub-cultures of scepticism and frustration in the minds of workers. Such cultures fill the airwaves with 'double speak' and minds with cynicism creating a climate of demotivation and constant requalification of what the messages 'really' mean.

In the end, workers make the message mean whatever they want in some kind of act of mental gymnastics. As a result the atmosphere is demotivating and people play the 'double speak' game of acknowledging the mantra but thinking the opposite.

14.0 Right Language and Goals in the Psychology of Risk and Safety

Whatever goals, targets of language are used in any attempt to develop safety ownership or motivation to safety ownership, they must be promotional goals. Researchers in social psychology know that gain-framed messages are much more effective that loss-framed messages. Avoidance goals drive negativity and the acceptance of failure as the measure of effectiveness. It seem strange in the zero harm model that safety effectiveness is only known by the negative of non-injury. How strange is it to count mistakes, errors and injuries and use these as a measure of safety effectiveness. This negative mindset contradicts all the research literature on how people learn (Claxton, 2011; Butterworth, and Thwaites, 2005, Paul, 1993; Sloan, 2006; Neville, 2010; Robinson, 2011).

Goals and targets that speak about the 'safety journey', 'harm minimisation', 'management of risks' and gain-framed messages associated with family and welfare are much more effective than avoidance goals that prime the mind on the negative a failure. One should not enter the zero debate without having some understanding of how cultures omit or commit in the priming of language. The reality is, talk matters, language matters and cultural discourse matters. Leaders in safety should be aware of how language works intuitively and counterintuitively before they commence goal setting and pursuit.

Conclusion

This paper has addressed arguments for and against the concept and language of 'zero harm'. It has added to the debate with some new discussion based on research into the psychology and culture of risk.

The paper seeks to show that the 'zero harm' concept and 'zero harm' language undermine safety culture in organisations. The paper discusses issues to do with: safety culture, language, motivation, goal setting, binary opposition, unconscious priming, cognitive dissonance, counter-intuitive dynamics, scepticism and survey evidence on zero harm believability and ownership.

In summary here are some more reasons why the language of zero harm is dangerous, it:

• Drives reporting underground;

• Has spawned a whole new language and data distortion for explaining away injury counting;

• Is unrealistic and naive;

• Generates scepticism and cynicism about safety;

• Is based on a negative ethic. It promotes a virtue of intolerance and deceit;

• Takes the focus off big picture risks to small picture risks, which indeed could increase risk;

• It stifles innovation and creativity;

• Primes reactive rather than proactive counterfactual thinking;

• Drives a punitive mindset;

• Drives a non-learning climate;

• Generates fear and anxiety;

• Facilitates a discourse of fundamentalism, black and whites, compliance, absolutes, and enforcement;

• Has a trajectory in one direction. There is no flexibility, discretion, extenuating circumstances, culpability or openness about the absolute;

• Primes a focus on failure;

- Promotes paralysis by analysis;

- Sets up talk about risk as negative and drives thinking away from learning to risk elimination;

- The language and philosophy of zero drives a culture of intolerance that lacks the virtue required to best manage humans.

The language of zero necessitates all these actions as it primes its audience. Its philosophical trajectory is the elimination of risk, the microscopics of error and the intolerance of humanness.

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Appendix 1

Understanding the Mind of Fundamentalism

Introduction

It is common in the media to dismiss terrorists and fundamentalists as "crazies" and idiots. Such an approach insulates us from taking the mindset of the fundamentalist seriously. This appendix reviews the common characteristics of fundamentalism in an attempt to better understand the "mentalitie"[13] (whole disposition) of the religious zealotry.

The work of Marty and Appleby in the Fundamentalism Project in 1991, sponsored by the American Academy of the Arts and Sciences is a foundational source to begin an understanding of fundamentalism.

Key Characteristics of Fundamantalism

The following provides an outline of the key characteristics of fundamentalist knowledge and practice (key phrases have been italicized for emphasis).

1. *Extremism*, whilst not objectified in individuals or institutions, is a precondition for breaking away. Extremism is seen as an ideal typical impulse characteristic of the *separatist or sectarian spirit*. This is not understood by fundamentalists as separatism but as refusing fellowship with unbelievers, as not being yoked with unrighteousness, or as not communing with darkness. The degree of extremism varies, depending on the theological/religious tradition that dominates the group. Separatism can occur in thinking as well as in practice and is strengthened by *secrecy* and cognitive dissonance which will be discussed at the end of this article.

2. *Religious idealism* is a central characteristic for, the transcendent realm of the divine is and made normative for religious community. The *power of the group* to solidify the resolve and conviction of the fundamentalist is critical and plays a critical role in cognitive dissonance too. Religious idealism alone provides *an irreducible basis for communal and personal identity* which is perceptible in the way fundamentalists respond by *a habit of mind*. The fundamentalist believes that only an identity founded on "the fundamentals" can remain free from erosion and corruption, impenetrable and immune to substantial change and aloof from the vicissitudes of history and reason.

3. Identity is understood as *ontological,* as rooted in the very nature of being in relationship with God (and each other) and therefore beyond the reach of human temporal and spatial considerations

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[13] Mentalities: comes from the French Annales School of History and refers to the history of attitudes, mindsets and dispositions. It denotes the psychosocial and cultural nature of history.

and the relativising force of history. For example, Born-again Christians understand their life to be a participation in "a new creation": having "put on Christ" by the "renewing of the mind" and they enjoy the benefits of a new status as "righteous servants of the Lord". The fundamentalist understanding of such Bible passages, tempered by separatism, leads to *exculsivism*.

4. *Revealed truth* is depicted as a unified, knowable and undifferentiated whole. This is affirmed by identity and the social group.

5. An intentionally *scandalous disposition* is espoused. The fundamentalist does not expect the outsider to understand the trans-rational claims of "the believer" because those beliefs are a stumbling block. These are however affirmed and understood in the group. Indeed, the "average person", according to the group and its mentality cannot discern or understand the things of God. In this sense it is rational to not even discuss beliefs with those who cannot understand so, a silence of articulation quickly develops and conversation about the truth is saved for the initiated.

6. *Opposition to historical consciousness*, especially if it is interpreted and translated by modernists into foundational principles of relativism. This partly assists the fundamentalist to maintain immunity from absorption of relativist ideas. Fundamentalists reject the notion that belief and practice are historically conditioned and contingent. Were fundamentalists to concede that the human mind conditions and limits the truth of revelation, their truth claims would stand for nothing and they would be susceptible to tests of relative adequacy and foreign criteria of evaluation.

7. Whether rhetorical or actual, an extremism exists that serves as *a litmus test to separate true believers from outsiders*. This is evident in a *vocabulary of belief* and a stereotyping of non-believers.

8. There is a *claim to privileged access to absolute truth* and an associated rejection of all other forms of knowledge, with the insistence that the fundamentalist is correct. *The primacy of truth* is crucial to fundamentalists. They see their existence as a bulwark against error and theological compromise.

9. The understanding of an either/or *identity of elect and reprobate* allows the fundamentalist to divide the world into kingdoms or provinces of darkness and light. This is coupled with an intense *personalism*. Individuals feel they have known God, not through priestly intermediaries but directly. This gives a feeling of certainty for what God wants for them and the world. This

guidance is often gained from *reading sacred writings for advice*, resulting in an extreme form of a *magical* approach in thinking. Thus, whilst intensely individualistic, this guidance results in high *absolutist moral expression*.

10. A position of *no compromise* with other doctrines or practices is adopted and an insistence on the purity and integrity of their doctrine.

11. The *repudiation of secular scientific notions* of progress and gradual historical evolution allows fundamentalists to reject humanistic notions of science and any form of relativist argument.

12. *Dramatic eschatology* shapes their identity. Scenarios of the apocalypse are invoked to justify various programs. Fundamentalism is basically messianic and apocalyptic.

13. A *consciousness of a particular historical moment* is matched to sacred writings with an extraordinary interpretation of time and space.

14. *Fundamentalists name, dramatise and even mythologise their enemies*. Dualistic readings of sacred writings allow renderings of a metahistory which provides fundamentalists with a cosmic enemy. They tend to *think in polarities*. This gives activities an *apocalyptic urgency* and fosters a *crisis mentality*. which helps to justify missionary zeal and extremism. Belief in a real Satan assists in locating a cosmic conspiracy by the enemy and all non-believers are perceived to be accomplices, either consciously or unconsciously, in the work of Satan. However, fundamentalists are often more afraid of people who claim the same religion but who deviate from the true belief than they are of pagans or atheists, because such behaviour casts greater doubt on their own convictions. One of the most visible qualities of fundamentalism is its tendency to split into quarrelling subunits who contend with each other over minor theological issues.

15. *A orientation of contrast against other cultures* is evident. The identification and elaboration of the enemy is often the initial step in the rhetoric of negation. Fundamentalists need to name and locate the enemy, an urge which is evident in anti-other-group-as enemy polemics.

16. Fundamentalists *set boundaries, protect the group from contamination and preserve its purity*. This is done through the maintenance of gatekeeping language and processes of indoctrination.

17. *Turning the nation around* is the goal of the fundamentalist.

Fundamentalists yearn for a theocratic state. This is evident in extreme reconstructionist language.

18. *A totalitarian impulse* is evident in the mobilisation and organisation against the enemy. Fundamentalists seek to replace existing structures with a comprehensive system and are *dogmatic* about it.

19. Fundamentalists are *selectively traditional and selectively modern*. They select carefully, from the plethora of doctrines, practices and interpretations that are available in their religious tradition, those that suit their subculture eg. maintaining a call back to basics using mobile phone technology.

20. They employ *ideological weapons against a hostile world*. The ideology of "naive realism" is the fundamentalists weapon against the world.

21. *Charismatic and authoritarian male leadership is idealised*. Fundamentalists repudiate traditional religious leadership, institutionalised religion and the scholarship associated with it.

22. *An envy and resentment of modernity is coupled with a shrewd exploitation of its processes and instrumentalities*. One of the contradictions of fundamentalist behaviour is their use of technology to evangelise.

23. Fundamentalists are *institution builders* with a comprehensive plan for society. These independent agencies became the organisational replacement for ineffective denominational affiliation.

24. A *rationalistic assertion of the truth* which comes about by the objectification of revelation. There is a curious and perhaps awkward imitation of the perceived empiricism of the enemy (secular rationality). Even though fundamentalism has a religious basis, in its anxiety to secure credibility in an empirical position it tends to rob religion of mystery, imagination, mysticism, complexity, ambiguity and situational character.

25. *Role conflict* is prominent in fundamentalism. Fundamentalism is essentially a psycho-religious state therefore, it cannot be soley explained sociologically. This is why an understanding of *cognitive dissonance* is critical in developing an understanding of the fundamentalist mindset.

Cognitive Dissonance

Cognitive dissonance theory is concerned with situations which confront groups holding strong convictions with clear and undeniable disproof of those convictions. The theory maintains that even when groups are confronted with falsifying evidence they seem to respond with increased evangelistic fervour.

There is some evidence to suggest that advertisements for motor-cars are read most frequently not in the days and weeks prior to a purchase, when a decision is being made, but in the days which follow the purchase of a car. The advertisements do not seem so much to influence the decision itself as to confirm the decision which has in fact been made. It is after the commitment that one is plagued by the most serious misgivings. Many friends and neighbours offer congratulations and express their admiration for the new vehicle, so confirming us in our wisdom and judgment. Others, however, express reservation or even surprise. It appears that there may be certain problems about this particular make of which we had not been aware, or that a certain different style is gaining ground and the purchase we have made is likely to become quickly out of date. At this point two or more of our cognitions, or items of our knowledge, or views which we hold believing them to be true, seem to be in conflict. (1) I am a sensible person whose practical judgment and "common sense" can always be relied upon. (2) I have made a decision which could be considered hasty and even foolish. These propositions jar upon one, setting up an uncomfortable feeling of attention, embarrassment or discord. The dissonance is cognitive in the sense that it has to do with the coherence of our knowledge, and the dissonance is experienced as being disagreeable because the items which constitute our universe of knowledge, the world of beliefs, attitudes, opinions and so on which form the known world of any individual, are integrated into a system. This is the dynamic of cognitive dissonance at work. Attempts will be made to alleviate the feeling of self-criticism and discomfort caused by the appearance of the conflicting beliefs. These may be described as techniques for the reduction of cognitive dissonance. In certain circumstances, reading advertisements seems to be one such technique. Fundamentalists seem particularly vulnerable to cognitive dissonance, since if they take their religious commitment seriously they are likely to experience tension within their world of alleged knowledge.

Festinger, Riechken and Schachter's work *When Prophecy Fails: A Social and Psychological Study of a Modern Group that Predicted the Destruction of the World* was the first attempt to describe the dynamic of cognitive dissonance. Although the authors were aware of a lack of detailed empirical evidence needed to demonstrate their theory, they proposed five conditions which seem necessary for dissonance to occur.

1. A belief must be held with deep conviction and it must have some relevance to action, that is, to what the believer does or how he behaves.

2. The person holding the belief must have committed himself to it; that is, for the sake of his belief, he must have taken some important action that is difficult to undo.

3. The belief must be sufficiently specific and sufficiently concerned with the real world so that events may unequivocally refute the belief.

4. Such undeniable disconfirmatory evidence must occur and must be recognised by the individual holding the belief.

5. The individual believer must have social support.

The cycle of cognitive dissonance is explained diagrammatically at figure 6.

In addition to these circumstances there are three kinds of cognitive dissonance; dissonance that occurs within the belief system itself, conflict between a system of belief and an alternative system and reduction of belief owing to criticism by significant parts of society that hold those beliefs as trivial, irrelevant and expressions of immaturity.

The stress associated with cognitive dissonance in fundamentalist organisations is dealt with by individuals in the provision of psychological consistency rather than logical consistency. Most argument for the establishment of a separatist group is structured in this way.

Situations of shock or dissonance are opportunities for learning situations. If the conflict takes a fairly moderate form, in which it is perceived to be a challenge, then cognitive dissonance may stimulate new discoveries and may inaugurate a realignment of the whole system in a more realistic and coherent way. Most people find it extremely difficult to give up trying to solve a puzzle once a certain amount of time, energy and prestige has been committed to its resolution. The explanation for this stubborn refusal to give in lies deeper than the mere curiosity about the answer. What we want is to get it right, and our persistence in struggling with the puzzle may be thought of as a form of dissonance-avoidance by anticipation.

Figure 6 . The Cognitive Dissonance Cycle
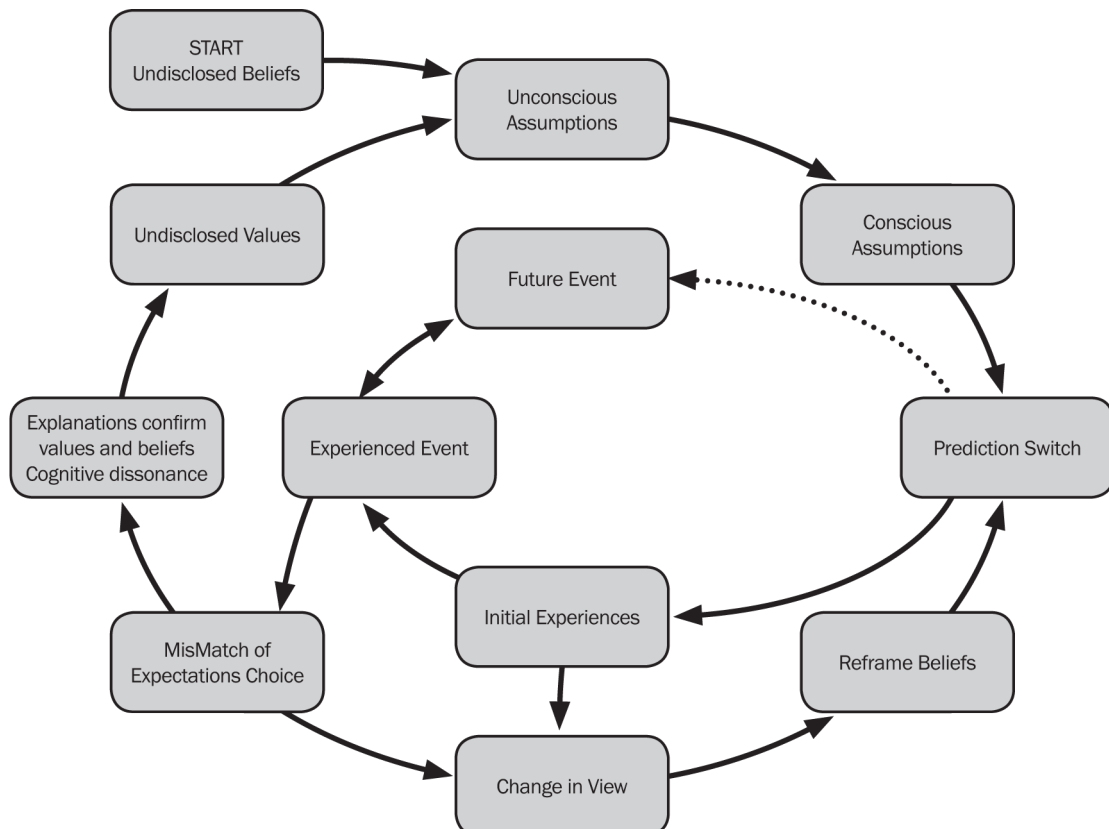
What Doesn't Work

One thing we do know about fundamentalism and its ideology is that: rational argument, regulation, patronizing dismissal and superiority don't work. All of these measures simply drive the fundamentalist into a deeper entrenched position (through cognitive dissonance) than before. The more the fundamentalist is pushed into the battle with evil and Satan, the more extreme the resultant position and actions can be sanctioned and "make sense". Unfortunately, it is counter intuitive to think that regulation, rigidity in policing, zero tolerance and rational argument could do more damage than good.

The key is to develop better understanding of the issue is surely in developing relationships with the fundamentalist and taking a longitudinal approach to resolving the issue. Unfortunately organisations spend an extraordinary amount of money on physical (engineering) solutions and development of barriers to the fruits of fundamentalism rather than addressing root causes in belief. In some cases it is evident that this short term approach simply stimulates further the creativity of the fundamentalist mind to new solutions and responses to commitment to the zero harm ideology.

Much more work and energy needs to be applied to the psychosocioreligious nature of zero harm ideology. The kind of research required to fully evaluate the insidious nature of zero harm ideology is yet to be done.

Appendix 2. Autobiographical Detail

Profile

Dr Robert Long

Specialisations	Rob has extensive experience and expertise in leadership, strategic thinking, organisational culture, risk and learning. Rob provides training, advice, coaching and mentoring for leaders and managers. Rob has also developed a unique diagnostic methodology which assesses culture and risk in organisations. In 2009-10 Rob conducted a National Security Cultural Survey for the Department of Defence and has been a keynote presenter at Security Australia 2009 and 2010. More recently Rob delivered risk culture diagnostics services of the Australian Institute of Sport, Australian Catholic University and numerous Tier One Building, Construction and Mining companies.
Experience	Rob's was a senior consultant for SAFEmap International and Safety4Life Aust and is currently Director of Human Dymensions Pty Ltd specialising in: socialpsychology, risk diagnostics, culture, learning and leadership. Rob was Manager of ACT Youth, Community and Family Support in the ACT public service for 3 years. Rob was founder of the Galilee School for high needs young people and has held numerous positions at three Universities.
	In 2006 Rob was requested to be on the Emergency Coordination Operations Group at Beaconsfield Mine following the rockfall disaster and later served on the Beaconsfield Mine Community Recovery Taskforce. Rob was also a Manager of an emergency centre during the Canberra Bushfires in 2003. Rob developed the Risk Management Plan for World Youth Day for the Canberra Goulburn Archdiocese in 2008. Rob recently delivered a workshop series for executives at the Alexander Machonichie Centre (ACT Prison) on Critical Incident Management.
	Rob is able to use his expertise in analysis, training, organisational psychology, research, cultural evaluation and human behaviour to serve a wide range of needs. He has provided many consultancies to national and international companies. Rob has written unique Culture, Risk and Learning Leadership Programs which have been delivered to some of the largest organisations and projects in Australia eg. Port Botany Expansion Project, West Gate Freeway Alliance, and the Eastern Treatment Alliance (KBR, Baulderstone, United Group, Black & Veitch and Melbourne Water).
Qualifications	Rob holds formal qualifications in Education, Social Policy, Social Psychology, OHS and Pastoral Psychology and is a Chartered Fellow of the Safety Institute of Australia, Member of the Australian College of Education and Risk Management Institute of Australasia.
	Rob is a Research Fellow with the Australian Catholic University and lectures regularly in Crisis Management, Ethics and Human Organisations. He has more than 20 refereed papers in journals, 3 chapters in books and recently published his own book: *Risk Makes Sense: Human Judgment and Risk*. Rob is an accomplished presenter at national and international conferences. Rob is a certified DiSC and MBTI trainer.
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