

## A Different Way of Thinking About Risk Assessment    \*\*GET GEOFF'S PAPER

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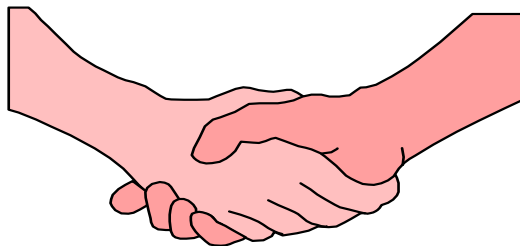
### Quotable Quote

"A health & safety problem can be described by statistics but cannot be understood by statistics. It can only be understood by knowing and feeling the pain, anguish, and depression and shattered hopes of the victim and of wives, husbands, parents, children, grandparents and friends, and the hope, struggle and triumph of recovery and rehabilitation in a world often unsympathetic, ignorant, unfriendly and unsupportive, only those with close experience of life altering personal damage have this understanding"

### Major Guiding Principle in OHS Management

## INITIATING CHANGE

- When initiating change remember “People support what they create”



### Introduction

In my 37 year OHS career I have worked in field, corporate, project, internal consultant and external consultant roles, in some cases with major organisations .The vast majority of OHS professionals I

have worked with are very caring, dedicated and motivated and try very hard in their chosen profession. I have also formed the view that a lot of the things we do are not particularly effective.

There is much activity in OHS in Australia but the ? study indicating the annual cost of workplace injury and disease in Australia is approx \$85 Billion ?says that some of the activity is not purposeful.

I would suggest the Occupational Health side of OHS has a sound research and theoretical base but I have never been able to convince myself that the same comment applies to Occupational Safety.

There is some research into safety in America many years ago that is held up as the basis of the safety business, how relevant this research is now is questionable in my view. There is a lot of learning from other disciplines that is applicable to Occupational Safety that is not routinely applied.

In my experience some OHS, Learning, H.R. and Management professionals are locked into tradition and are not open to new ideas. A smaller number continuously challenge the status quo and appreciate a new twist on an old theme, the following will probably only appeal to the latter group.

### Disclaimer

I am expecting a fair bit of flak for this paper. Awhile ago I put a post on the U.K. Institute of Occupational Safety & Health. safety discussion forum questioning some of the traditional ways of managing safety. The Poms were most vitriolic in response. It was suggested I should put my hat on when I ventured outside as the outback sun had clearly addled my brain, it was suggested mine was a convict mentality, it was suggested Australia had always been and will always be backward in most things we do, one bloke said my view was typical of Down Under.

### A Different Way of Looking at Risk Assessment

Australian safety researcher Geoff McDonald has been my mentor / coach / guide / advisor during most of my safety career. Geoff is driven by research in a wide range of disciplines, logic and the facts he derives from his research. Geoff is definitely the most advanced thinker about safety that I have encountered in my 37 years in the safety business.

In writing the following I have put my own spin on the theory Geoff has exposed me to over the years, I am aware much of it will not be received well by the traditionalists in the OHS, Learning, H.R. and Management professions. The justification for what I say in this paper is not extensive, I will leave that up to the book Geoff will publish, hopefully by the end of 2009. I have had the opportunity to be exposed to Geoff's theory, mull over it and reach my own conclusions. It has to be said the theory Geoff has exposed me to agrees with my personal experiences in safety over many years.

My coach / adviser / mentor / guide on safety, Geoff McDonald is a big critic of risk assessment and I recently explored his thinking on this topic. He has compelling arguments against the technique backed up by extensive research and literature. Rather than present his arguments half-heartedly I will leave it until Geoff finishes preparing his paper on the topic

### LIST OF REASONS WHY RISK ASSESSMENT DOES NOT REALLY WORK.

I have developed 3 different risk assessment courses in my time, being an enlightened adult learning facilitator I made sure there were lots of practical exercises where participants could play with and critically reflect on the concepts. One thing I noticed on all 3 courses was that when different groups were set a risk assessment task on the same job the risk ratings were often different. When questioned on this the groups had good reasons why their ratings for Probability, Consequence and Exposure

were different. Variations seemed to stem from differences in group members experience with the particular risk and their personality type. All this said to me the risk assessment process was subjective, it is not a precise method and it is dangerous to get too carried away with the risk ratings and make go / no go decisions based on risk assessment only.

You will note that one of my guiding principles for OHS management is “When initiating change, remember people support what they create” I am all for widespread discussion, involvement, consultation and comment on all OHS matters. My critical reflection on the theory Geoff McDonald has exposed me to and practical experience with risk assessments says to me risk assessment does not give those involved a solid basis of fact to use when making decisions.

I put a post on the Canadian Centre for Occupational Health & Safety discussion forum about risk assessment .It appears risk assessment is not used in a big way in Canada and I thought one respondent summed it up well when he said “Risk assessment is just a part of the Job Hazard Assessment really, a fairly small part, as a lot of it is just guessing” I put a post on the U.K. Institute of Occupational Safety & Health. safety discussion forum about risk assessment. They seem to be saying there are a number of problems with the way risk assessment is used in practice and the biggest problem is that sometimes it is used as an end rather than as a means to an end.

A lot of the risk analysis in industry consists of slightly informed guesswork from stakeholders, the term “consignorance” applies (what happens when you combine ignorance with consensus)

Risk assessment is the cornerstone of much safety legislation and many company safety approaches and many OHS, Learning ,H.R. and Management professionals would argue strongly for its worth. I am not being critical of those who support risk assessment as there are many historical and societal reasons for this belief. There was a time when I was a strong advocate for risk assessment. In Qld we see a Risk Management Code of Practice under the Workplace Health & Safety Act which has a high emphasis on risk assessment and an Australian Standard on Risk Management which also emphasises risk assessment.

Risk assessment is ingrained in our approach to OHS and anyone who questions it will have a fight on their hands. Questioning the efficiency of risk assessment would be like removing many people’s security blanket. In criticising risk assessment I fear I will be perceived in the same manner as someone who criticised The Queen, Mother Theresa or Sir Donald Bradman. I have questioned risk assessment in other forums and many have gone to great lengths to describe what an idiot I am and how I must be wrong, so far these sometimes impassioned arguments have not swayed my opinion on this matter. There are a number of OHS consultants that make a lot of money out of risk assessment, I would imagine this paper will not be well received in these circles. The government regulators who have enshrined risk assessment in safety legislation will also be unimpressed.

Geoff McDonald talks about “Displacement activities” in safety. A displacement activity is something we do, something we put a lot of energy into but which there is really no valid reason to do it. I suspect a lot of risk assessment activities are displacement activities.

A ex-manager of mine, who has a way with words, says the trouble with safety is that management and safety professionals sometimes engage in acts of public masturbation! I apologise if anyone finds the foregoing offensive but my belief is it is an admittedly crude, but accurate, way of describing some of the things I have seen happen in safety.

## Analysis Reference Tree-Trunk Method of Personal Damage Occurrence Investigation (Developed by Geoff McDonald)

I have used this technique for ages and believe it produces very high quality investigations. I have been trained in a few other investigation methods and have read widely on the topic, I still keep coming back to A.R.T.T. For a number of years I used to teach a 2 day course on this method and some excellent investigations resulted. The course also allowed people to challenge the more common beliefs about safety.

Essentially the personal damage occurrence is represented by a tree-trunk lying on the ground, at the end of the tree-trunk you have Person elements, Machine elements and Environment elements, along the length of the tree-trunk you have 6 time zones and the annular or growth rings of the tree represent a number of Ergonomic elements. Instead of looking for “causes” you look for “essential factors” ( an essential factor is one without which the final personal damage could not have occurred) There are good reasons why the term “cause” is not used, emotive and infers blame. The idea is to look for essential factors where the various categories of the model above intersect.

The model is very easy to use and usually at least 30 essential factors will be found in each personal damage occurrence. This widens your options for control over some other methods of personal damage occurrence investigation. For me the A.R.T.T. model places your thinking into boxes and because you have so many boxes to fill you identify more essential factors with the model than you would without it.

High quality investigations are essential for efficient taxonomies (See below)

### Class 1 Damage

Starting from the birth of the industrial safety movement in America in the 1920's we have been fed a solid diet of “Accident Ratio Studies” by various researchers. The numbers differ from one researcher to the next and in different industries ( in other words it is inconsistent) but the central theme of the argument is that for every serious injury there will have been x less serious injuries and y minor injuries beforehand. From this work the belief has been developed that if you stop the minor injuries you will automatically stop the major ones. I was trained in this approach when I first started in safety, I now realise this approach does not accord with my personal association with personal damage occurrences in most of my 37 year safety career. These studies are fine for statistical description but I believe they are weak on statistical inference. There will be occasions when the belief above is proved correct but I would suggest this is in the minority. We should learn from these occurrences.

Geoff McDonald has a system of classifying personal damage occurrences (“Accidents “) that goes something like this-

Class 1-Permanently alters the future of the individual

Class 2-Temporarily alters the future of the individual

Class 3 –Inconveniences the individual

Geoff has investigated many thousand Class 1 damage occurrences in his career and maintains the most effective way to make meaningful progress in safety is by focusing on the class 1 phenomena. . Given Geoff's immersion in serious personal damage I believe he brings a unique perspective and knowledge of what works and does not work in safety and I value his opinion.

In my 37 years in safety I have dealt with the aftermath of 13 Class 1 Fatal and 2 Class 1 Non-Fatal events none of which could have been predicted by prior minor “accident experience” Most Class 1 damage is a totally different beast than the other 2 classifications, the energy levels are much higher if nothing else. Class 1 damage reduction requires a different approach than the other classes, tools like the taxonomy and critical incident recall are of value. High quality investigations will reveal many essential factors in Class 1 personal damage occurrences and they are invariably complex events thus making them more difficult to predict by simple, low damage events. As Geoff says the common cold will never develop into cancer, similarly most minor injuries will not develop into Class 1 personal damage.

A study into Australia’s personal damage experience by the Industry Commission said 13% of occurrences were Class 1 with 82% of the damage. This seems to say we should be concentrating on the relatively small number of events that result in the most personal damage.

Zero Class 1 damage is the approach I would take in order to target our efforts and limited resources in the most productive area. For me it is a matter of focus.

### **Taxonomy**

This is an incredibly simple yet powerful technique that it is rare to find used. Essentially a taxonomy is a collection of like. The most well known taxonomy is the phylum of plants, their botanical names.

Awhile back I was associated with a taxonomy of the more significant personal damage occurrences in the Qld mining industry which I thought was particularly effective in setting priorities for the industry. It is important to do the taxonomy on an industry basis as it is unlikely even the big companies will have enough of the more serious events to be able to develop statistically significant determinations.

The Qld mining industry has a standard personal damage occurrence report form that is sent to the inspectorate. The hard copies of the forms were obtained and sorted into like, ie the spinal column damages caused by driving a haultruck were put together ,the spinal column damage caused by lifting gas cylinders were put together, the eye injuries caused by grinding were put together and so on. The personal damage occurrences were then examined for their frequency, severity and the essential factors (An essential factor is one without which the final damage could not have occurred) This process gives insight into where your principal problems are occurring and guides preventative action. It is all about getting the biggest bang for your buck.

In these days of computerised data systems I still feel it is necessary to go back to the original hard copy report for full details unless this has been scanned into a data base.

### **A Suggested Way Forward**

The way I see it is we do not really know what to do to prevent Class 1 personal damage and risk assessment has been suggested as an appropriate way forward. Risk assessment is common, taxonomies are rare. It is suggested risk assessment has mis-directed effort in safety and while we have been very busy doing risk assessments we have largely ignored a systematic examination of Class 1 damage which provides better insight. At the moment the recording and reporting of personal damage occurrences (“Accidents”) in Australia is fragmented, disorganised and suffers from differences in definition from state to state A priority task for the Australian government under new harmonised OHS legislation should be to develop a consistent National Class 1 personal damage data

base to allow industry taxonomies. For me these days, risk assessment is just guessing whereas taxonomies are putting some precision into the mix

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