The nature of disaster - more than just the meanings of words:

Some reflections on definitions, doctrine and concepts.

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Keywords and Heuristics

Differences in the definitions and usage of terms are more than merely semantic issues. A discussion paper on "Disaster-Related Terminology" commissioned by the United Nations Disaster Relief Organisation (UNDRO) goes as far as stating "...terms employed and the meanings/interpretations attached to them determine the way people using these terms (concepts) think and act" (Ockwell, 1990). While the determination thesis may overstate, and reflection of world views probably be closer to the mark, we often work with language which has legitimate latitude of interpretation, is at worst "a museum of ignorance" (DeBono, 1990), at least cultural baggage, and too often an encumbrance to productive enquiry.

The resort to "my Webster", or "my Oxford", or "my Macquarie" is often a cheap attempt to appropriate a meaning which fits "my" argument. Most of the terms related to hazard/disaster do not lend themselves to the simplicity of the dictionary. Many of the terms involve ideas and values, stated or not. Scratching the surface beyond the obvious, one finds "...a history and complexity of meanings; conscious changes, or consciously different uses; innovation, obsolescence, specialisation, extension, overlap, transfer; or changes which are masked by a nominal continuity so that words which seem to have been there for centuries, with continuous general meanings, have come in fact to express radically different or radically variable, yet sometimes hardly noticed, meanings and implications of meaning" (Williams, 1983). These very differences (in meaning) and their implications, can be a productive springboard for consideration of key issues.

"Heuristics" has joined the cocktail circuit of vogue buzzwords in recent years. Put simply, they are methodological aids to the discover of truth; and as such they are frequently used as teaching devices. Used inappropriately they merely become another tool for the creation of ignorance :

"In each field that has entered into hazards research it seems that, sooner or later, great excitement develops about how to classify and partition off the issues involved in the subject. However this is rarely done in an open-ended, philosophical and curious way. Rather it becomes a 'territoriality' question, a zoning regulation for these sorts of studies. Nowadays, to judge from our efforts in geography, it most often takes the form of plausibly locating the hazards 'box' within a model or diagram of the components and lines of interaction in man-environment studies. A moment's reflection usually shows that these are

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... In this issue ...

not 'models' of reality at all, but managerial devices to show the relations among the study areas or dimensions currently fashionable in *the discipline and related fields" (Hewitt, 1983).*

For example, one of the heuristics I favour for teaching hazard mitigation to our clients is a management device biased towards an anthropocentric, technocratic view of the world focussing on disasters as a function of hazard evolution. Adapted from the work of Kasperson and Pijawka (1985), it is outlined in the figure below.

Disaster and Vulnerability

Two of the key springboard words upon which I will focus are "disaster" and "vulnerability". Keywords are important in at least "... two connected senses: they are significant, binding words in certain activities and their interpretation; they are significant, indicative words in certain forms of thought" (Williams, 1983).

Notions of disaster from the school of "...(extreme) events which are located in time and space..." specialise in what Basil Fawlty calls the bleeding obvious, and advance a simplicity which is of limited value. Other definitions reflect the context of the definer. Heathcote's 1976 description of "...extreme geophysical events greatly exceeding normal human expectations in terms of their magnitude or frequency, and causing significant material damage to man and his works with possible loss of life", is from the geography school of man-environment but focussed on the nature of the extreme event.

The South Australian State Disaster Plan which, during the 1980s, evolved an applied definition for disaster response agencies pointed to "...any occurrence (including fire,

flood, storm, tempest, earthquake, eruption, epidemic of human, animal or plant disease, and accident) that:-

(a) causes or threatens to cause, loss of life or injury to persons or animals or damage to property, and

(b) is of such a nature or magnitude that extraordinary measures are required in order to protect human or animal life or property." This is clearly an anthropocentric focus which highlights the interaction between systems of human resource management and systems of (geophysical) events. There is in the above definitions the "sense of causality or the direction of explanation ... from the physical environment to its social impacts" (Hewitt, 1983).

It is now nearly a decade since Hewitt "presented a striking critique of orthodox interpretations of disasters as a function of natural hazards" (Varley, 1991). The core of the Hewitt thesis was that" ... 'Hazard'...refers to the potential for damage that exists only in the presence of a vulnerable human community" (Hewitt, 1983). Susman, O'Keefe and Wisner (1983) went on to define disaster as "the interface between an extreme (physical) event and a vulnerable human population".This focus has flourished as is reflected by the definition of disaster promulgated by the office of the United Nations Disaster Relief Coordinator (Boulle, 1990) which states that "a disaster is simply the result of the negative impact of one particular hazard on one given community; it is a measure of the vulnerability of this community to a specific hazard." Recent international conferences (such as the Royal Geographical Society and University College London, 3-4 May 1991) confirm the vigour of the
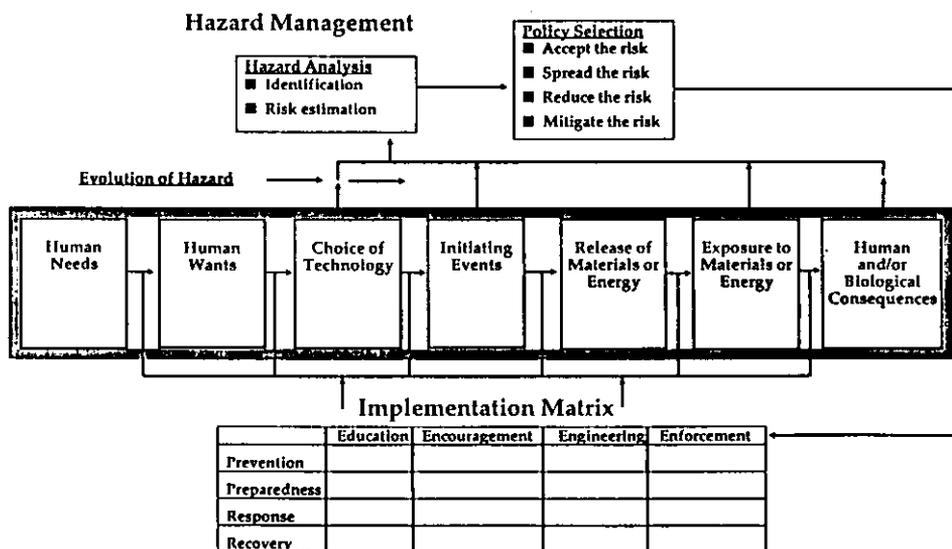
"vulnerability" approach to understanding disasters.

For Susman, O'Keefe and Wisner, "vulnerability is the degree to which different classes in society are differentially at risk, both in terms of the probability of occurrence of an extreme physical event and the degree to which the community absorbs the effects of extreme physical events and helps different classes recover." Varley (1991) reports on "the latest thinking on the concept of vulnerability as a function of the resilience of people's livelihood (its strength and recoverability) and the degree of social- and self-protection available to potential victims."

Hazard agents may be physical events; disaster impacts are social products. Disasters are manifestations of vulnerability. "Almost half a century of research has shown that disasters hit the poor and weak more severely and with longer lasting effects than the rich and strong, be they individuals or groups or nations (De Marchi, 1991)." Further, De Marchi points out "if vulnerability is a feature of the human system and can therefore be either increased or diminished by human action, there is no such thing as a natural disaster." This recognition of the "ultimate" social causes of disaster has spawned socioeconomic (who) and spatial (where) maps of vulnerability, rather than merely mapping hazard agents.

Ignorance and Risk

Ignorance, like knowledge is primarily a social creation. "Realistic strategies for managing ignorance must incorporate the realisation that humans are motivated to create, conceal, and use ignorance" (Smithson, forthcoming). The following classification of ignorance

Hazard Management

Policy Selection
■ Accept the risk
■ Spread the risk
■ Reduce the risk
■ Mitigate the risk

Hazard Analysis
■ Identification
■ Risk estimation

Evolution of Hazard →

| Human Needs | Human Wants | Choice of Technology | Initiating Events | Release of Materials or Energy | Exposure to Materials or Energy | Human and/or Biological Consequences |

Implementation Matrix

	Education	Encouragement	Engineering	Enforcement
Prevention				
Preparedness				
Response				
Recovery				

adapted from Smithson is a useful start point to distinguish between different types of ignorance, especially the current vogue - uncertainty.

Uncertainty, a sub-set of "error" ignorance, has been facilitated in achieving a central position in debate at least in part due to the ease with which it can be studied. While the importance of uncertainty is recognised, the significance of socially constructed ignorance in the form of "that's inappropriate" is understated. This social construct is neatly illustrated by the debate over the terms "safety" and "margin of protection" or "protection factor".

Real social forces operate so that "...government agencies naturally attempt to constrain and define risks so that they appear controllable or manageable. It is the role of such agencies to present certainties, and absolute terminology such as 'safety' creates this valued impression of certainty (Goldstein, 1990)." Complete certainty or full information has long been recognised as a mad answer to an impossible question.

Risk is another social construct which enjoys definitional latitude. The traditional scientific view of risk as a function of probability and consequence focussed on the "whats and hows", the quantitative function of exposure and potency. Social processes in communities have focussed on the qualitative functions of many factors, the "whys" - institutional values (caring, competence, credibility), voluntariness and questions of who benefits. With regard to the policy

implications of different concepts of risk, Judith Bradbury (1989) has pointed out "the technical approach to risk may be entirely appropriate for purely engineering decisions, it is inappropriate ... as the basis for societal decisions." What is called for is critical dialogue between all parties, and appropriate structures to facilitate it (the dialogue).

All decisions have moral / political dimensions. At the heart of the vulnerability thesis is the issue of dispersive equity. The imposition of risk by social processes is reflected in many philosophies.

The utilitarian might aim to minimise the overall average risk. The egalitarian might propose equal distribution and the elitist might contemplate selective minimisation.

These considerations prompt us to focus on social institutions and the social and cultural context in which risk is assessed and managed. Given this, I trust our curriculum considerations cover a broad range of knowledge, skills, concepts and attitudes which enable and empower our future citizens rather than either momentarily impress them with "great balls of fire" or tell them to "shut up and colour it in". ∎

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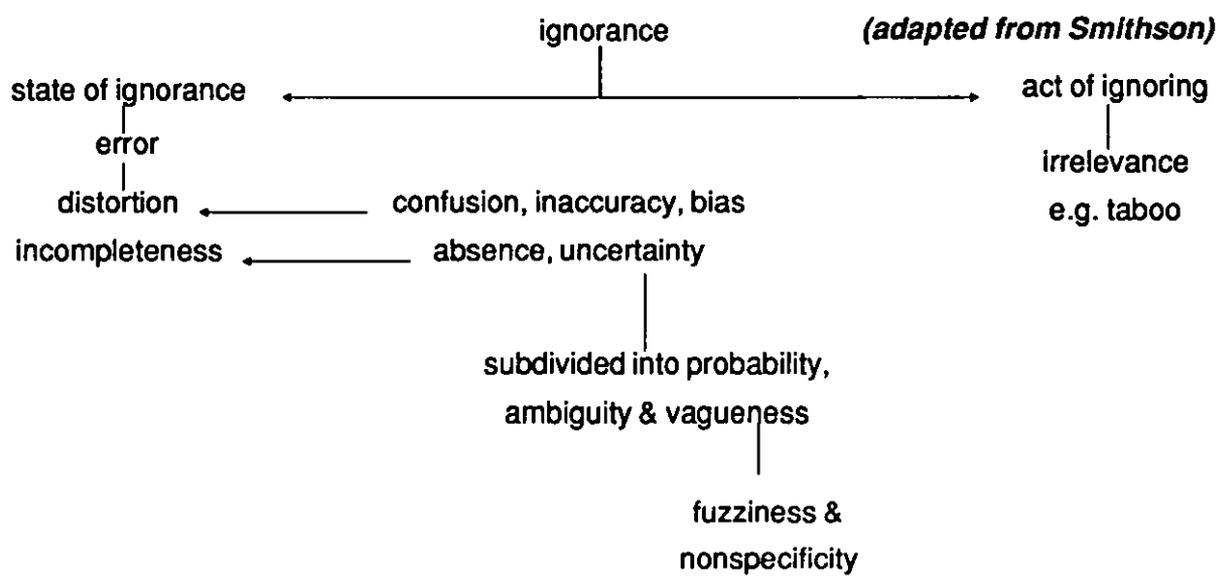
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A Categorisation of Ignorance

ignorance

(adapted from Smithson)

state of ignorance ← → act of ignoring

error

distortion ← confusion, inaccuracy, bias

incompleteness ← absence, uncertainty

irrelevance

e.g. taboo

subdivided into probability, ambiguity & vagueness

fuzziness & nonspecificity