

# Like a Splinter in Your Mind: Myth, Reality and (Un)Natural Disasters

**Speculation on why there seem to be more disasters, even though we are becoming more knowledgeable.**

by

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## Introduction

The title of this paper is based on a metaphor. The metaphor is one taken from a science fiction movie called The Matrix, which explores the possibility that the way we understand the world around us is based upon a construct of reality that is mythical (Appendix A). This metaphor is applied to the issue of disasters, in the sense that our construct of reality, though serving a useful purpose, is counterproductive to disaster risk reduction.

In this movie, humanity is shrouded under a fantasy (i.e. our perceived world is mythical) which serves the purpose of maintaining a civilization of intelligent machines that use people as ‘batteries’ for power. The hero Neo intuitively feels that something is wrong<sup>1</sup> and is led to the truth of his existence by Morpheus, his guide during his quest. In The Matrix a core theme is the question ‘What is reality?’

In The Matrix the accepted perception of reality (except for a small minority of people who have escaped the construct) is provided by the machines. Within the metaphor being used in this discussion, the machine affecting our society would be the culture and genetics that creates the filters that people use to view themselves and their world. These filters, which can vary enormously from person-to-person and culture-to-culture, are largely based on what is called our ‘assumptive world’ – a powerful set of assumptions that is confidently maintained and used as a means of recognizing, planning and acting. They are the bedrock of our conceptual system and one of the fundamental ways that we use to develop coping strategies (Janoff-Bulman, 1992).

Judgments on the degree to which various assumptive worlds are accurate are extraordinarily hard to make, particularly for value-laden issues. These judgments tend to be self-reinforcing and are based upon the belief that our assumptive world is a good representation of ‘truth’<sup>2</sup>.

This article explores the idea that there is a growing dysfunctional relationship between humanity and our environment leading to increasing vulnerability, one result of which is more (un)natural<sup>3</sup> disasters.

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<sup>1</sup> In the words of Morpheus; ". . . you know something. What you know you can't explain. But you feel it. You've felt it your entire life - that there's something wrong with the world. You don't know what it is but it's there, **like a splinter in your mind**, driving you mad . . ."

<sup>2</sup> It is highly questionable whether ‘absolute truth’ exists, although we normally tend to act as if it does and as if we know what it is.

<sup>3</sup> The term (un)natural disaster is used to emphasize that natural disasters are caused or greatly exacerbated by human decisions that create vulnerable communities.

To some degree the cause is proposed to be common myths that determine perceptions of reality. To the extent that these myths misrepresent the actual nature<sup>4</sup> of the ‘human-environment’ relationship, they contribute towards the creation of preconditions that can, in the presence of a trigger, result in disastrous consequences.

## **Entering the Morass**

One of the difficulties in constructing this argument is that it is based upon the notion that the authors’ concept of reality is better than those who adhere to alternate realities / myths – and, of course, we all think that. Yet, if the authors are as bound by their perceptual filters as others (which is very likely), then it is hard to argue that one assumptive world or set of myths is better than another. From this perspective the greatest challenge is often not in finding answers, but in asking the right questions<sup>5</sup>. As well, the issue becomes intricately entangled with value judgments in the case of social issues such as disasters.

Nonetheless, the authors suggest that all perceptions of reality are not equally valid. This point is arguable, but few people would step in front of a fast moving truck despite the proposition that it might not be real. Valuing different realities might be addressed by accumulating empirical evidence to validate the hypotheses upon which they are based, if possible. One drawback to this approach is that the world is so diverse and complex that one can cherry-pick evidence in order to support a particular hypothesis. Witness all the conspiracy theories, supported by cherry-picked (and possibly manufactured) evidence, regarding the terrorist attacks of 11 September 2001. Examples are that the American government caused the atrocities or that the hijacked flight that (allegedly) hit the Pentagon was shot down by the American military. Another drawback is that some perceived realities are not subject to empirical analysis, but rather are totally faith based.

Distinguishing between better or worse perceptions of realities is an extraordinarily difficult topic. The degree to which a particular belief is considered to be true or false is a function of worldview (or matrix). People will judge according to their own personal matrix within which their myths reside – myths that are often quite different from those held by others. For (un)natural disasters, this challenge could potentially be addressed through accumulating empirical evidence – our disaster history – and analyzing it in terms of social and physical processes that create risk.

Are the number and intensity of (un)natural disasters increasing? If so, then why? Have our coping mechanisms been successes or failures? These questions have been addressed by various authors, including ISDR (2004), Munich Re (2004), Mileti (1999) and White *et al.* (2001)<sup>6</sup>. These analyses show that the numbers and consequences of natural disasters have been increasing, suggest that increases in knowledge and technology have not been able to reduce disaster losses, and propose that in some cases have caused losses to increase. Thus, the proposition that the set of constructs used to prevent, mitigate and manage disasters is flawed attains legitimacy.

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<sup>4</sup> Again, a knowable ‘actual nature’ likely does not exist. However, it seems likely that one could accumulate evidence that some views of realities are poor, as a result of repeated failures (Kuhn, 1970).

<sup>5</sup> John F. Kennedy seemed to be thinking along these lines when he said “The great enemy of truth is very often not the lie – deliberate, contrived, and dishonest – but the myth – persistent, persuasive and unrealistic.”

<sup>6</sup> White *et al.* (2001) concludes that, to a great extent, the knowledge needed to reduce disaster impacts exists but is not used or is used ineffectively, largely because of “conflicting interests and lack of political will to resolve them.”

Yet, the world is vast and complex. More information exists than any individual could possibly learn. People therefore tend to rely upon intuitive judgments and heuristics to evaluate and judge. Adams (1995) argues that people both deliberately and unconsciously cherry-pick information that supports their particular worldview while rejecting or reinterpreting information that does not. This is called cognitive conservatism. Since the world provides a plethora of justifying observations for most perspectives, accumulating empirical evidence to contradict or support hypotheses is complex and subject to bias.

## Myths

The authors propose that individuals filter this plethora of observations and information through myths. Glantz (1976) and de Ville de Goyet (1999) amongst others have discussed myths related to (un)natural disasters. de Ville de Goyet mentions several myths in the aftermath of a disaster including (i) dead bodies create a major risk of disease and (ii) the affected population is too shocked and helpless to take responsibility for their own survival. The former likely arises from the terrible images of dead bodies which frequently look as if they must be associated with disease. The latter is perhaps more based on what people would wish to believe: the desire to help—to do something—could mean that an excuse for giving that help must be generated, even if that excuse is at variance with the evidence. Glantz (1976) states more general myths, such as (i) technology is the answer and (ii) people learn from their mistakes. He disproves these statements with evidence from a drought in Africa. Many of these myths represent optimism, easy ways forward, and (perhaps) what we would prefer to be reality. Glantz notes that these myths become an integral part of the overall disaster problem by hindering effective solutions.

Myths related (un)natural disasters can be placed in a hierarchy. At the top of this hierarchy (according to our classification below) myths are empirical and relatively easy to prove or disprove. These myths are easier to view as an objective reality; an example would be how structures fail in the presence of tornadoes. At the bottom, myths are heavily based upon often-unrealized assumptions of how the world works; an example would be the ability of organizations to control complex systems. These assumptions can be viewed as subjective and are often strongly tied to values. In this realm, when applied to managing disasters or catastrophes, systems are complex, facts are often uncertain, there are differing yet valid perspectives, values play a fundamental role, and the world of post-modern science emerges.

The proposed Myth Hierarchy is:

1. Myths of fact (for example, opening windows when a tornado approaches is a good idea).
2. Myths of human behaviour (for example, that panic is common during disasters).
3. Myths of potential consequences, in terms of how humans interact with their environment (e.g. Perrow, 1984 for technological risk; Adams, 1995 for risks related to the natural environment).
4. Fundamental myths at the core of our internal world (Janoff-Bulman, 1992). An example might be 'If a deity wants me to die in a hurricane, so be it' although there would be a fine line between this statement as a 'myth' and as a 'core belief'. At this depth of belief, it is almost a semantics game to try to differentiate myths from beliefs, particularly given the different connotations of those words.

This proposed hierarchy is tentative and incomplete. In particular, it focuses on the individual, potentially obscuring pervasive cultural myths. One suggested fundamental myth of modern western society is that a 'command and control' approach is the best way to manage disasters. This deeply

embedded idea leads to ‘solutions’ that might be counterproductive in complex situations. Irrespective of gaps, the proposed myth hierarchy is, hopefully, a useful starting point though in need of further thought and development for understanding how we think and act with respect to (un)natural disasters.

Given the myth hierarchy’s structure, myths at the top might be characterized by ‘seeing is believing’, while those at the bottom are better characterized by ‘believing is seeing’. With respect to the fourth and most fundamental category Janoff-Bulman (1992)<sup>7</sup> in his book dealing with post-traumatic stress disorder proposes three primary myths that define how most people view themselves and their relationship to the external world:

1. The world is benevolent.
2. The world is meaningful.
3. The self is worthy.

These myths tend to be sustained even in the presence of contrary evidence, but they can serve a useful purpose. Although they are not necessarily accurate, they can be useful as a way for trusting ourselves, those around us, and our environment. They allow us to relate to the world functionally (most of the time) but can also lead to distortions. They result in people believing they can control more than they actually can, the ‘it won’t happen to me’ syndrome, and that negative events are viewed as punishments leading to a tendency to blame victims while positive ones are viewed as rewards even when no connection exists. Thus, we feel safer, more in control, and feeling that we understand what is happening. The result is a predisposition towards unrealistic optimism or simplistic explanations that can lead to maladaptive behaviour by encouraging undue risk-taking, realised or unrealised, or false associations between cause and effect. From time to time, this approach fails catastrophically.

With respect to the 3<sup>rd</sup> level of the myth hierarchy, Adams (1995) discusses various myths or (as he calls them) partial truths that explain how people relate to nature in terms of risk. They vary from a view of ‘nature benign’ (nature is forgiving for our excesses, a view typically held by economists and the political right) to ‘nature ephemeral’ (where catastrophe lies around the corner, a view typically held by environmentalists and the political left). Any of these perceptions can be valid upon occasion and all can be justified with supporting evidence, as with any partial truth. Adherence to one or another of these worldviews explains much variation of opinion on many issues, from climate change to the degree of environmental protection needed in order to sustain ecosystems.

A possible corollary resulting from Adams’ (1995) ‘nature benign’ view is that nature exists to be challenged. One manifestation is in the desire to seek new environments and new risks. Thus adventurers climb the highest mountains, seek the poles, descend into the deepest seas, rocket into space, and are idolized when they are successful—and, sometimes, even when they fail, such as Robert Falcon Scott’s journey to the South Pole.

Another manifestation is reflected in our tendency to control nature to meet our perceived needs, generally without adequately considering consequences. Risk is often increased by not adequately considering natural processes and the environment based upon the notion that we can overcome nature’s barriers and challenges, and nature will be forgiving of errors. This process sets the stage for (un)natural disasters. If one inadvertently challenges nature to do its worst it should not be surprising that, from time-to-time, it does. The 2005 Hurricane Katrina disaster in New Orleans is an excellent

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<sup>7</sup> Though this book is primarily about post-traumatic stress disorder, it has important implications for how people create and deal with risk.

example of this process, as well as others that contribute to the creation of vulnerable communities and poor planning.

The myth of control is explored by Perrow (1984). He suggests that in certain types of systems that are both tightly coupled and complex, accidents leading to failure are fundamental properties of the system, not subject to elimination by better management practises—though of course that can help to some extent.

How can one decide which worldview is more appropriate for a particular issue or problem? One approach requires listing all the assumptions upon which varying worldviews are based, constructing hypotheses that support those assumptions, and creating a test to examine how valid they are in the future being considered. This can be extraordinarily difficult to do where issues are complex, value-laden, or not subject to laboratory or field experimentation. However, even in these cases the very exercise of examining assumptions can lead to valuable insights, particularly if they are subjected to the critical examination of a variety of stakeholders.

Useful questions to be tackled within this context are:

- How valid is the past as a guide to the future?
- To what extent do assumptions require the past as an explanation for the future?
- What scales of time and space are being considered? How does observing different scales change our understanding and worldviews?
- Does sustainable development matter? Is sustainability a realistic goal?
- What is the distribution of risk and how will it change? What processes create risk, its distribution, and the changes?
- What are the uncertainties? How certain are we about these uncertainties?
- What are the unknowns? How certain are we about these unknowns?

## **Splinters**

The title of this paper begins with a quotation from The Matrix, ‘Like a splinter in your mind’, which is being used as a metaphor for modern society in terms of how it perceives, responds to and experiences (un)natural disasters. The authors suggest that there is a growing gap between the reality of disasters that we experience and the expectations of them provided by our myths. The splinter itself is ‘cognitive dissonance’, a psychological term referring to discomfort felt when encountering a discrepancy between what you already know or believe and new information or interpretations. Within the context of this paper cognitive dissonance results from the observation that despite amazing increases in knowledge, technology and wealth that should make life safer, the world is becoming a riskier place with more frequent disasters.

One reason for this is that increases in knowledge, technology, and wealth frequently create risk (Beck, 1985). Technology brings a new set of risks that must be dealt with including pollution, complex chemicals, weapons of mass destruction, climate change, and destruction of the ozone layer. In addition, wealth generally leads to more choices, one result of which is that more mistakes can be made. Rich people choose to live on Californian cliffs that can collapse in storms or on east coast American barrier islands that sit in the paths of hurricanes. When houses are built in a floodplain (even one surrounded by structural defences such as dykes and dams) and then are flooded, or when houses

are built in a forest and then burned in wildfires, these events are often viewed as happening to us rather than having been created by us. We thus fall prey to the gap between myth and reality.

Much of western culture is based upon the belief that nature can and should be controlled. We seem to think that our knowledge, our technology, our wealth, and our presence should somehow overcome nature and stop disasters from occurring, as imagined by Descartes who referred to people as the ‘masters and possessors of Nature’ (Descartes 1638). When mitigation, prevention, prediction or response fails and a disaster occurs, different conclusions can be drawn. One is that we simply need to improve our knowledge, technology, or wealth and, as a result, risk will be reduced. Another possible conclusion is that it is not a lack of knowledge, technology, or wealth but rather a misuse of knowledge, technology, or wealth that increased risk. Both are what Adams would refer to as ‘partial truths’. Knowledge, technology, and wealth create risk when they give us a false sense of power and control—just as humanity has in The Matrix.

The issue is not merely misunderstanding or misinterpreting whether nature or humanity has more power or control over the other. If humanity had unlimited power we would be unlikely to achieve more safety with respect to nature (and, in fact, we might be far less safe) because the fundamental issue is how knowledge and power are used. Without wisdom—the wisdom of appropriate use—it seems likely that the world will continue to become riskier<sup>8</sup>.

How society conceives of and measures progress<sup>9</sup> is fundamental to social decisions that construct risk. According to some indicators, society continues to progress at a rapid rate; for example, improvements in computer technology, average life span in the western world, or the large numbers of papers published in scientific journals. Other indicators are less positive, such as HIV infections or the size of ecological footprints. With respect to the latter, Miletic’s remark that ‘much of what we think we know is wrong; many of the actions we take to fix problems just make them worse’ rings true<sup>10</sup>.

## Conclusion

Myths help people understand the world they live in and relate to it functionally. However, when experience suggests that a myth is failing then it becomes time to examine the basis and reasons for that myth and to seek out more productive ways of describing reality. Myths can evolve to become a better approximation of reality and reduce the size of the splinter. The authors of this article propose such a situation – that the accepted myths of perceived safety, power and control, of our relationships to nature and technology, and of the manner in which risk is constructed in society are failing. By shifting emphasis in the paradigms we use to understand our environment, we can become better adapted to the world we inhabit. This shift would emphasize:

- limits to power and control, and use of the precautionary principle,
- increased emphasis on prevention and mitigation,
- stewardship of and living more in harmony with nature, and

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<sup>8</sup> For a classic discussion of how our society constructs risk see ‘Risk Society: Towards a New Modernity’ by Ulrich Beck. To quote William Leiss commenting on Beck, “increasingly our fate is bound up with risks that are deliberately undertaken -- for the sake of benefits conceived in advance -- by means of our technological mastery over nature.”

<sup>9</sup> What is progress? How should it be measured? What sort of values should it be based upon – social, economic, environmental, spiritual, or a combination? Is the taken-for-granted assumption that western society is progressing a good one?

<sup>10</sup> Examples are an overdependence on dams and dykes to control flooding, or excessive aid following a disaster, which can reduce social resilience by creating cultures of dependency.

- basing risk reduction strategies on a social process that emphasizes social justice, sustainability, and responsibility to both current and future generations, particularly to those groups that disproportionately suffer during disasters.

This places the issue of disaster management very much in a cultural context; thus becoming part of the day-to-day life of a large number of social players as opposed to the professional business of a few.

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## **Appendix A: Except from The Matrix**

**MORPHEUS**

Do you believe in fate, Neo?

**NEO**

No.

**MORPHEUS**

Why not?

**NEO**

Because I don't like the idea that I'm not in control of my life.

**MORPHEUS**

I know exactly what you mean.

**MORPHEUS**

Let me tell you why you are here. You are here because you know something. What you know you can't explain. But you feel it. You've felt it your entire life - that there's something wrong with the world. You don't know what it is but it's there, like a splinter in your mind, driving you mad, driving you to me. It's this feeling that has brought you to me. Do you know what I'm talking about?

**NEO**

The matrix.

**MORPHEUS**

Do you want to know what it is?

**MORPHEUS**

The Matrix is everywhere, it's all around us, even now in this very room. You can see it out your window, or on your television. You feel it when you go to work, or go to church or pay your taxes. It is the world that has been pulled over your eyes to blind you from the truth.

**NEO**

What truth?

**MORPHEUS**

That you are a slave, Neo. That you, like everyone else, was born into bondage... .. kept inside a prison that you cannot smell, or taste, or touch; a prison for your mind.

**MORPHEUS**

Unfortunately no one can be told what the Matrix is. You have to see it for yourself.