Why all human beings **make mistakes**

An extract from 'Preventing Mistakes at Work' by Hugh Murray.

Part 1

Why we make mistakes at work

This is a paper about mistakes. It is not about misjudgements so let's begin by making the distinction clear. A mistake is a cockup or a blunder – something that goes wrong between our intention and what actually happens. Reversing into a bollard is a mistake. Supplying the wrong part is a mistake. Deleting an important file is a mistake.

The word is also used to describe a misjudgement. "It was a mistake to go to France this year". Well it would have been if you had intended to go to Spain and got on the wrong train but it was more likely to have been a misjudgement – that is you wanted to go to France and you did go to France but it turned out that you didn't enjoy it. Of course people can use the word mistake in any way they like but in this paper we are using it purely to mean "doing things wrong".

Evolution and the modern workplace

We were not designed for the modern workplace. Anthropologists think humans left Africa to colonise the world around sixty thousand years ago. In evolutionary terms that is an eye-blink. Physically and mentally we are the same as we were then, apart from a few trivial differences such as different skin colours. So the bodies and minds that we expect to cope with Excel spreadsheets, flying jet airliners, removing appendixes, selling smart phones and designing skyscrapers are the same bodies and minds that we expected to cope with avoiding predators, killing prey, finding shelter and reproducing. Not surprisingly we are far from optimised for the modern workplace. In fact it is little short of miraculous that we can function in the modern world at all. Here are some of the problems we face:

Not surprisingly we are far from optimised for the modern workplace.

We are highly distractible

A lot of modern tasks require concentration and focus. Yet we are designed to be easily distracted. Think about this for a moment. If we were designed to concentrate on one thing for long periods of time our ancestors would have been eaten millions of years ago. In order to survive, our ancestors had to be highly distractible. The slightest sound of a

twig cracking, the flicker of movement in the corner of the eye, an unusual smell – these things all would cause our ancestors to switch their attention instantly to the new threat or chance of food.

Movement is a good example. Our eyes are incredibly sensitive to movement. We can be focused on reading or threading a needle but if something moves in the corner of our eye it instantly gets our attention. We are designed to be distracted and yet we expect ourselves to do work that requires total focus.

We lose our thread

> ***Our memories have evolved to help us survive.***

Being distractible would not be a problem if we could easily resume our place in a task after the distraction. But we can't. The problem is the way our memories work. We might think that our memories are like a computer database that we can interrogate, but they are not. If they were, we would never forget anything and this is obviously not true.

Our memories have evolved to help us survive. They do this by feeding us the information that we need when we need it. Our memories accumulate vast amounts of information over the years but we are unaware of this. Imagine if we had to cope with simultaneously being aware of everything that happened to us during childhood plus every experience since. It would be overwhelming, possibly distressing, certainly distracting and would allow us no capacity to deal with the present. So all this information is stored where we are not aware of it. Our brains throw a piece of information or a memory into our conscious minds when something triggers them to do so or sometimes at random.

For example, you might be trying to find a friend's house when you have not been there for years. You suddenly say, "I remember this pub. We turn down this side road". You didn't even know that you had remembered the pub and yet your memory threw it out to you when you needed it – when it was prompted by the situation.

Our memories are not like lists that we can work our way through. They throw out stuff when needed – and sometimes they don't. You might be in the supermarket trying to remember what it was that your partner said you had run out of. You see the eggs and you remember, "Of course! Eggs". Or you might make an association, "Of course! Bacon!"

But just trying to interrogate your memory is unlikely to work.

You can keep stuff in the forefront of your mind. You can go round the supermarket thinking, "Eggs, Bread, Milk, Bacon….Eggs, Bread, Milk, Bacon" and this will work, but it will use up most of your thinking capacity. It will go wrong when you bump into Noreen Jones from school and she asks you what you have been doing for the past twenty years. When, after ten minutes of reminiscing and catching up, you return to your shopping you will find yourself thinking, "What was it that I came in here for?"

This, by the way, is why shopping lists are a good idea!

Our brains are superbly equipped for finding relevant information.

Our memories have evolved to provide information when we need it and not to be interrogated. It is a one-way flow. Our brains are superbly equipped for finding relevant information and feeding it to our conscious minds – but only when we need it. I don't need to know how to drive a car while I am writing this paper. But the moment I get into my car I know what to do.

The trouble with a lot of information at work is that we don't, in the opinion of our brains, need it. Our conscious minds want it but we don't need it and it won't come back to us without a prompt. If our memory feels like throwing it into our conscious mind, then all well and good. But there is not much we can do if it doesn't.

Combine this one-way flow of memory with our capacity for distraction and you see why we lose our thread. We sit down to order some stock that is urgently needed and an annoying e-mail pops up asking us to respond to a question we know we have already answered twice. We send an indignant reply to that and then decide to grab a coffee. On the way back to our desk the boss asks if we have finished his report. We haven't so we get back to our desk and finish his report. We get home and have supper and then we watch a thriller that has a tense finale in a darkened warehouse. Just as the killer is about to investigate the pallet which the hero is hiding behind we suddenly say, "Oh no! I never ordered the urgent stock from the warehouse!"

Limits to perception

Have you ever looked at a cloud and seen a face or an animal or a house or something else you recognise? This is the brain trying to fit meaning to what it can see. It evolved to do this so that it can spot a predator in the shadows or some other threat. Quite often the full picture is not available and the human brain puts in the missing parts to give you a warning of danger or opportunity. This is why you can look at a random stain and see something familiar – a bird, a dog, a map of Italy or whatever. It is not useful in itself, though it can be interesting and fun, but it is a result of evolution giving us the ability to deal with partial information.

This is very useful when reading. We may learn to read by looking at individual letters but as adults we simply recognise words, phrases and sentences and our brains extract the meaning we require.

Quite often this process is inadequate. How often have we heard, or said, "You didn't read the instructions properly". The fact is that we do not read carefully. We just extract meaning quickly and move on. If the meaning intended is not the meaning we expect then we are likely to get the meaning we expect and not what was intended.

This is particularly true at work with e-mails. We get so many of the wretched things that we tend to grab what we assume to be the meaning and act on that rather than studying them to get the intended meaning. Have you ever sent an e-mail asking three questions and only had an answer to one of them?

We are surprisingly unaware of much that is going on around us.

We are surprisingly unaware of much that is going on around us. We also tend to disregard things that we perceive but which are not relevant to what we are thinking about at the time. The typical exchange: "I definitely told you that!" "You definitely did not!" arises because we simply do not perceive so much of what is going on. If we are anxious about preparing for a meeting, for example, and someone tells us something that is not relevant to that, we tend to either not hear or quickly forget the irrelevant information. This applies even to information that is vitally important. Military pilots who are focusing on shooting down a plane often fail to realise that they are themselves under attack until it is too late.

Stress

When under stress we stop thinking and start responding.

Stress further inhibits perception and logical thought. Survival in the wild depends on instant responses to threats rather than careful analysis. An animal facing a threat does not think – it simply responds. There is a mental process taking place but it is a very primitive one based on responses rather than thoughts. Put simply, when there is no time to think the brain shuts down thought and relies on response.

Humans exhibit the same behaviour. When under stress we stop thinking and start responding. This is essentially what panic is – the suppression of thought in favour of an urge to act. We will hammer on a solid brick wall if we are cornered by flames in a burning building. Logically there is no point in hammering on a solid wall but we attack the solid wall for as long as there is strength in us. And sometimes, rarely, this strategy works and we find a way through.

Unfortunately the evolutionary response to stress – to stop thinking – doesn't help at work yet it still arises. The more stress we are under the harder we find it to think clearly, or at all, and the more we tend towards panic. This may not extend to hammering on a brick wall but it may well lead to doing the wrong thing or the ineffective thing rather than thinking the situation through and coming to the best solution.

One of the most common causes of stress at work is the feeling that we have too much to do. As the tasks pile up a mounting anxiety can develop into near-panic. If we only had three things to do in a particular day we could probably cope. But if we have a hundred and three we might not even get the three done that we would have done in less demanding circumstances because we are so worried about the other hundred.

Logically, the response to having too many things to do is clear: we only have eight hours available so the question becomes what actions will make the best use of those eight hours? We should analyse the tasks that face us in terms of which ones will move us furthest in the direction we wish to travel. We should then do those tasks and we will have moved the greatest distance by the end of the day. In practice we find it difficult to take this dispassionate approach. The thought of all the tasks facing us causes a stress response which suppresses clear thought. We switch from thought to response and the obvious response is to get rid of as many tasks as we can. This means that we tend to start with the quick and easy ones that can be crossed off the list fast, bringing it down to a more manageable size. Yet this response will not move us as far in the direction we wish to travel as the more logical one.

Conclusion

As the tasks pile up a mounting anxiety can develop into near-panic. If we only had three things to do in a particular day we could probably cope.

We weren't built for the modern workplace. In this paper we have mentioned some of the reasons why we are prone to make mistakes at work. There are many others. We make mistakes because we are human and we always will make mistakes. Many organisations respond to mistakes as if they were a deliberate act. They stress the importance of not making mistakes and they create negative consequences for people who do make mistakes. They treat mistakes the way they treat poor performance or disciplinary matters. This is going to cause people to keep their heads down, to be secretive about mistakes and to play it safe the whole time.

A better approach is to accept that making mistakes is part of being human and to devise strategies that deal with this reality. We shall be discussing such strategies in this series of papers.

In other extracts from Preventing Mistakes at Work, we'll be exploring:

- The kind of mistakes we make
- Strategy for reducing mistakes
- Dealing with mistakes that do occur
- Preventing mistakes from recurring

If you'd like to receive other instalments or would like to purchase a full copy of *Preventing Mistakes at Work* by Hugh Murray, please email accuracy@scottbradbury.co.uk

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Hugh Murray's experience of developing people's data accuracy skills dates back to the 1980s when the initial research on accurate data transfer was being done in America and Sweden. You could say Hugh is an 'accuracy skills pioneer'!

Hugh's early career included management positions at McGraw-Hill and Gower and in 1988 he set up learning resources company Fenman, where he published the magazine Training Journal (now TJ). In 2003 Hugh co-founded Scott Bradbury, making management development training films as well as continuing his work in the field of accuracy skills training. The company's flagship 'Developing an Eye for Accuracy' programme is delivered to thousands of delegates each year.