



memory

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Memory and identity

Our identity is shaped by our memories. We constantly, but inadvertently, select and manipulate our memories to suit our own view of the world. This means we are always reshaping our own idea of who we really are!

We need other people to appreciate us for who we really are, but in striving to achieve that aim, do we really know who we are?

We assume of course that we are a product of our life experiences, which we can easily access through our memories of the past. But identity is not a truthful representation of who we are, because we don't actually access and use all our available memories when we create our own personal narrative. Instead, we unconsciously tend to pick and choose what to remember.

When we create our personal narratives, we rely on a psychological screening mechanism known as the monitoring system, which labels only certain concepts as memories, but not others.

Concepts that are vivid and rich in detail and emotion – episodes we can re-experience – are more likely to be marked as memories. These pass a 'plausibility test' carried out by a monitoring system which tells whether the events fit within our own general personal history. For example, if we remember walking on the moon in vivid detail, we immediately know that it cannot be real. But personal memories also need to fit our own current image of ourselves.

Our brains can sometimes take traumatic memories out of context so that occasionally we believe life's bad experiences were worse than they really were. Certain songs or smells can make people feel nostalgic about past events, while for others they can serve as an unwelcome reminder of sadness and loss.

Let's suppose that you have always been a very kind and gentle person, but after a very upsetting experience you developed an aggressive trait that now suits you. Not only has your behaviour changed, your personal narrative has also changed. If you were asked to describe yourself now, you might include past events previously omitted from your narrative – for example, instances in which you did act aggressively.

But our minds can also be trained to let go of unwanted and negative thoughts by putting them in a new context. Hypnotherapists for instance, use imagery and suggestion to change the way we perceive bad experiences, creating emotional distance and helping clients regain ownership of their emotions.

How the brain creates memories

At the very cutting edge of research into brain function, bio-psychologists think that a great deal of the brain's activity is governed by a process called Modulation (only recently discovered and measured.)

This is particularly important when it comes to memory. Modulation is basically a matter of increasing or decreasing the chances that anything from a single cell, to a network of tens

of thousands of cells, will fire. This depends to a large extent on what else is going on at the time, but the brain has the ability to decide what is important and what is not and allocate attention by either inhibiting or enhancing activity accordingly. The ability of the brain to do this, simply *has* to be part of the survival strategy.

If two things happen one after another, the circuits of cells that store the memory of those two events form interconnections that will affect behaviour. Once these connections are in place, the brain will always remind you that once the first event has happened, the second will surely follow.

Here, again, we are in familiar Pavlovian territory, but on a more human level, it should now be clear that there are correlations with all sorts of human behaviour. Fears and phobias immediately spring to mind as a phobia is literally a fear of a fear. The first event – going to the airport, triggers the second event – the conditioned fear response, for example, the nervous tummy, sweating, sudden dread or fear etc. associated with flying.

When long term associations are laid down, the genetic machinery in the nucleus of the cell is activated to produce new proteins – the building blocks of most living tissue! The cells use these proteins to build extensions of themselves, forming new sites where connections can form. Networks of cells that are activated either frequently, or in emotionally charged situations, become permanent so that in future, they will all react together. This is how memories are created, and as we shall see, special memory, like behaviour, can be modified – hopefully to the advantage of the client.

I would like to explore this in more detail, so let's take as an example a memory of an image of a particular person. The more the brain sees the image, the more likely it is the brain will remember and recognise it. Repeated sightings of a particular person will reinforce the pattern and will activate other mental triggers. For example, *'this woman is attractive, I would like to get to know her better'* or *'this man is a pain in the ass, I need to avoid him.'*

So the mere sight of a person will trigger different emotional responses. These emotional responses are entirely predictable and make it more likely that the memory of that image/person will be retained in the long term memory.

What makes memory so complex is that patterns overlap so that a single stimulus can trigger a flood of different memories and emotions.

Damage to the brain can result in damage to memory. A much studied patient, known only as HM, lost part of his hippocampus as a result of surgery designed to relieve severe epilepsy. The result was that he could remember everything that happened in his life before the surgery but was then completely unable to form new memories and the result was that he became stuck in the 1950's.

Emotional trauma, even shock, can also distort memory. For instance, everyone can remember where they were and what they were doing when the news of the World Trade Centre attacks broke on 11th September, but that is a rare instance. Mostly, we are unable to retain such detailed memories.

In a popular experiment, oft repeated for the entertainment of psychology students, volunteers are asked to view a five minute film, part of which involves a car accident. Even straight after the film, witnesses disagreed about even the most basic facts, particularly when questions relating to the events portrayed in the drama were phrased in such a way as to be deliberately misleading and designed to alter perception. Examples of how

questions became misleading were *'how fast was the blue car going?'* versus *'how slowly was the blue car going?'*

Memory is vital to establishing experience and experience in its turn is vital to predicting the future. Human civilisation would have ground to a halt were it not for our remarkable ability to predict future events based on the patterns of previous history.

When MRI scans of volunteers who underwent tests of memory and prediction were examined, the results astonished the scientists who carried them out. Asked to recall memories and then imagine future events, the areas of the brain that were most active were almost identical! Predicting the future is not the main function of memory, but it now seems certain that it is one of its primary functions.

Another argument for caution when using the guided imagery most often associated with hypnosis – particularly in the case of 'regression' hypnosis, which brings another surprise and possibly unstable guest to the party!

From the age of about four, children develop the ability to talk about their own past and the future at the same time. The ability to recognise patterns in past events which are stored in the memory is vital to the ability to predict what will happen in the future when similar sets of circumstances present themselves. This principle is present in every facet of life, from relationships, to political events, to economics, to earthquake prediction, to family affairs, to... well, just about everything.

The areas of the brain that are used for memory and prediction are also used for imagining. What is even more amazing is that people who lose their memories also lose their ability to imagine their future.

Armed with all this knowledge, we can now begin to understand how tinkering with memory – using suggestion, guided imagery and focused attention during hypnosis, can radically change the way people imagine events, think about them, and feel about them. And if you can change those things, it's only a small step to changing how they feel about themselves, which is the cornerstone of therapy!

Memory and emotion

Everything is linked to memory – every thought, every idea, every feeling, every emotion has its roots somewhere in our memory banks. Our senses are geared to make associations with memories of events, places, people, pieces of music, and particularly, smells. That's why we often experience the same physical feelings when we are reminded of people or places or events. Every thought has a physical attachment, whether it be tightness in the chest, butterflies in the stomach, or breaking out in a rash!

Even just the expectation of these physical symptoms occurring can serve to change our behaviour – we may find ourselves avoiding certain social situations or take a different route home.

Of course memories of traumatic events are painful because of the very nature of the event, and these kind of events often seem worse than they really were when you relive them – ask any war veteran – because we only remember the event itself rather than the circumstances in which it happened.

All painful memories are the result of peak experiences, for example being attacked by a large vicious dog, being involved in a road accident or a toxic and abusive relationship. The result of this, is that traumatic memories hurt more than we should allow. Dr. Dabney Ewin, a respected pioneer of hypnosis in America, told patients '*No one can hurt you emotionally without your subconscious permission...*' and he was right.

A new study has shown people can diminish harmful memories of past experiences by changing how they think about the *context* of those memories. The results of the research, carried out at Dartmouth and Princeton and also at University College London (UCL) should be of interest to therapists because they could especially help people with post-traumatic stress disorder (PTSD). The findings help explain why some therapies for conditions such as PTSD are working well – it could even mean that even the most unpleasant memories could be intentionally forgotten.

Researchers at UCL placed 20 volunteers in an MRI scanner and showed them pairs of pictures, some of which included negative content, such as pictures of serious injury as well as neutral pictures which were of mundane objects or scenes.

Participants were better at remembering the negative pictures, but not as good at remembering the neutral ones when they were shown alongside a negative one. In addition, the brain areas involved in storing the negative content were more active than the areas involved in storing the mundane content. The overall effect was that traumatic memories can often be made worse. This means that it's possible people are more likely to remember bad or traumatic events out of context, forgetting any neutral memories formed at the same time.

A major problem with memory is that if a traumatic event is not stored in its appropriate context, individuals may go on to experience intrusive images of the event – images that may also be accompanied by intense feelings of distress similar to those experienced at the time of the original event, commonly known as 'flashbacks' – a painful phenomenon where it appears the same event is happening again in the present.

People with PTSD often have disturbed sleep, constantly and vividly recalling experiences, complete with vivid intrusive images as well as dulled responses to other people and to the outside world in general. The importance of getting the client to recognise and understand the correct context of the event should not be underestimated.

There are things clients can do that will help change the meaning of memories – in other words, by altering the context of the memory, clients can create the emotional distance necessary to make a memory less painful.

To stop negative thoughts coming back to haunt you, try and change the context of the memory. For example, if a memory of a scene from a horror film haunts you, try watching the same scene during the daytime, maybe with a friend who laughs a lot!

Memory and ageing

Brain imaging studies have shown that personal memory does not have just one location in the brain, it is based on an 'autobiographical memory brain network' which comprises many separate areas.

A crucial area is the frontal lobes, which are in charge of integrating all the information received. If the memory created is not congruent or meaningful, it is either discarded or undergoes changes, with information added or deleted. Memory is therefore very malleable, and can be distorted and easily modified.

Crucially, there are upsides to malleable memory. Picking and choosing memories is actually the norm, guided by self-enhancing biases that lead us to rewrite our past so it resembles what we feel and believe now. Our memories become even more unreliable as we age. Many people start to experience some memory loss, but still retain detailed memories of important things and events that happened years ago.

These snippets of memory not only provide clues that serve to stimulate memories, but they also act as catalysts for the kind of reminiscences we all experience when we recall detailed memories of things past.

Recollection though, is something distinct from familiarity, which is the general feeling that we have experienced something before but are not quite able to put our finger on it. For example, you might see someone who instantly looks familiar, but cannot recall exactly who they are. This experience of familiarity happens very fast – you can quickly detect that you may know the person, but recollecting the details of who they are takes longer.

The reason for this is that separate areas of the brain are responsible for recognition and association. The hippocampus is involved in forming associations that help recollection, whereas the nearby perirhinal and entorhinal cortices appear to be more geared for familiarity.

We know that recollection – the ability to retrieve details of an event – decline as people get older, whereas familiarity remains about the same regardless of age. Studies have shown that areas of the brain such as the hippocampus (important for recollection) tend to decline in volume, whereas the areas that support familiarity such as the entorhinal cortex remain more intact regardless of age.

We also know that memory does not work as a flawless tape-recorder. We not only forget information, but also misremember it, even if we are convinced that we recollect vividly and accurately. Older adults find it increasingly difficult to retrieve specific and accurate details of an event, which means they could be more susceptible to gaps in memory and false recall.

But can anything be done to inhibit or reverse these changes?

There are no magic pills or potions that can protect our memory from decline, but science points to a number of strategies that can help with the impact of ageing on memory. One popular suggestion is to do lots of crossword and sudoku puzzles.

The problem is, there is little evidence to support this idea – the best you can expect is to get very good at doing crosswords and sudoku. But transferring those skills to other kinds of abilities remains stubbornly and frustratingly out of reach. Doing crossword and sudoku puzzles won't necessarily improve your ability to reason abstractly or remember more information. Likewise, claims that 'brain training' will ward off cognitive decline or dementia are equally false.

But there is some light at the end of the tunnel. Perhaps surprisingly, the method most likely to help is to simply engage in more physical exercise, particularly in mild (and I stress *mild*) aerobic exercise such as walking or swimming.

The research – and evidence – in favour of the benefits of exercise to both physical and mental health, mental ability and memory, is robust. A brisk walk or swim has been proved to be beneficial to memory. Areas of the brain, including the hippocampus, show an increase in volume as a result of aerobic exercise. So the best advice for improving your memory is to use that half hour you might have spent doing a sudoku puzzle to go for a nice walk with a friend instead.

Alertness decreases and reaction times slow with age.

Scientists from the University of Montreal claim that learning to play a musical instrument could also prevent brains succumbing to some of the effects of old age.

Musicians have extremely rapid reaction times – they can interpret the notes and phrasing on the page and translate that into sound by incredible feats of mental and manual dexterity, whilst at the same time listening to and fitting in with the other members of an ensemble. Playing music is a uniquely complex and highly accomplished skill – and it's something non-musicians are unable to do. The only professionals with faster reaction times are fighter pilots!

The Montreal researchers decided to compare the reaction times of 16 musicians with 19 non-musicians. All the musicians had started playing between the ages of three and 10 and had received at least seven years training. There were eight pianists, three violinists, two percussionists, one double bassist, one harpist and one viola player. All but one had also mastered a second instrument – something common among trained musicians.

Both groups took the test in a quiet room and sat with one index finger on a computer mouse and the other on a vibro-tactile device – a small box that vibrated intermittently. They were told to click on the mouse when they heard a sound from the speakers in front of them (audio stimulation) and also on the box when that vibrated (tactile stimulation.) The participants also wore earplugs to hide any buzzing or audio clues when the box vibrated. For the sake of completeness, when both sound and vibration occurred, it was called audio-tactile stimulation. Altogether, the stimuli were applied 180 times.

The musicians had significantly faster reaction times for all three sensory stimulations, something that should come as no surprise. When the study was published in the journal *Brain and Cognition*, author Simon Landry claimed the findings suggest that long-term musical training keeps people alert. Any musician could have told him that.

We could add playing chess, learning a foreign language or studying history to an almost limitless list of possible healthy activities that stimulate the brain. Chess would be useful in that it requires a certain amount of planning ahead and out of the box thinking. Speaking a second language means the brain gets used to being able to eliminate distractions – the first language is a distraction for example – and other studies have shown bilingualism can delay the onset of dementia and Alzheimer's. Studying history helps develop a linear sense and that can help train the retain memories.

For elderly people in particular, learning to play an instrument could improve alertness and reaction times. Not necessarily to professional concert soloist standard of course, but to a level where they can enjoy music making with others, something that would bring additional benefits such as social interaction and broadened interests – and also stimulate memory, because music stimulates emotions and musicians have to *remember* a huge amount of information from first rehearsal to concert!

Learning stimulates cognition

Busy people have sharper minds and better memories. Packing more into the day increases the opportunity of learning new things which can stimulate and challenge the brain... and for those worried about age-related memory loss, a ground-breaking study was carried out on men and women aged 50 and over.

330 healthy men and women in their 50s, 60s, 70s and 80s were questioned by researcher Dr Sarah Festini of the University of Texas at Dallas about their daily schedules and lifestyle before being put through a series of mental tests.

The results, published in the journal *Frontiers in Aging Neuroscience*, revealed that no matter how old, or how well educated they were, a busy lifestyle indicated a healthy brain. The study found that busy people process information more quickly and possess superior memory, reasoning and vocabulary, compared to those whose lives were more sedentary.

People who reported greater levels of daily busyness tended to have better cognition – particularly when it came to memory for recently learned information. In addition, episodic memory – the ability to remember specific past events – was also especially good.

The researchers are not claiming that being busy is good for the brain because it may just be that people whose minds are still sharp do more stuff. But it seems most likely that keeping active keeps the brain active – busy people have more opportunities to learn as they are exposed to more information and encounter a wider range of situations in daily life.

Another recent study found that a sustained effort in learning difficult new skills, such as computing or learning to play the piano, also boosts episodic memory, so the bottom line is... if you want to stay smart, keep busy!

How the brain learns by rote

Traditional methods of learning have been modernised, meddled, tampered with, fiddled and generally interfered with by successive well meaning but ill-informed governments. And after all that tinkering, it turns out the old ways were the best after all.

At school, before I wrote my age in double digits and before the blackboard became the chalkboard, 10 years before the invention of the pocket calculator and three decades before the chalkboard became the whiteboard and we were introduced to the marvels of the personal computer and the Internet... we learned everything by rote.

That meant long sessions in the classroom repeating out loud out times-tables until the numbers were firmly fixed in our memories. The same went for Latin – *amo, amas, amat, amamus, amatis, amant*, and so forth – until those words too, swirled around endlessly in our heads. And the torture didn't stop there... the capitals of every country in the world and their location, the periodic table of elements – all were laboriously committed to memory.

It was not the most enjoyable or the most interesting way of committing knowledge to memory, but the interminable repetition may have helped me make better decisions later in

life – because basic knowledge stored in my brain freed up space for more complex tasks – an important part of decision-making. The quicker we are able to process information, the quicker we will be able to arrive at the best solution.

I am a great believer in the efficacy of rote learning because I know it works. I speak from first hand experience. From Prep school to grammar school – the great social leveller – there was no discrimination, just an opportunity for naturally bright kids to move forward, without being held back by an extreme and perverse socialist ideology, one where all children are given the opportunity to surge ahead at the same rate as the slowest in the class. You didn't have to come from a wealthy family to get a place in a grammar school – all you had to do was to be bright enough to pass a simple exam.

But the grammar school was also a place where the not so academically nimble were also encouraged to ambition and self-improvement. The proof the old system was better, has been confirmed by the actions of diehard left-wing comprehensive education socialists like Dianne Abbott and Shami Chakrabati – who both sent their children to private schools, as did the great Labour leader, humanitarian, selfless philanthropist and Bush poodle, Tony Blair.

Chinese, Japanese and Asian school children learn by rote – the result is an academically high achieving population. Not for them airy-fairy ideas of happy contented children at play – academic success is an ideal embraced by teachers and pupils alike with an almost religious fervour. There's a reason Asian children do so well! In India – 60 million of them are currently in university education. I have taught and lectured in hypnotherapy at several Indian universities and Indian Institutes of Technology in Goa, New Delhi and Jodhpur. Most Indian students study Science and Engineering subjects and the vast majority are doing two degrees in tandem. They study from seven in the morning until after ten in the evening. Alcohol is banned on campuses and the idea of taking a day off is almost unknown.

Learning by rote is a tried and tested success story and we know that our brains really are capable of storing this amount of information. Brief periods of direct instruction, something now deemed less important, has also always been highly effective. This is why lessons were always limited to half an hour, or perhaps an hour in the case of double physics and double chemistry, where much of the time is spent carrying out practical experiments.

Dr Helen Abadzi is a specialist in cognitive psychology and neuroscience at the University of Texas at Arlington. Dr Abadzi believes people are 'prisoners to their working memory'. It is the working memory that helps people arrive at the right decisions. However, most people's working memory can only manage a few pieces of information at a time – and these only last for 12 seconds at most, yet these bits of information determine decision making.

The more information already stored in your brain, the more efficiently you can process new information. But information and knowledge such as times tables learned by rote and committed to memory, reinforced by textbooks and homework, is now considered an outdated idea.

Instead of using working memory to calculate numbers each time, our brains were once able to automatically access these numbers from our long-term memory, freeing up the brain for the more the complex calculations needed for decision making.

According to Dr Abadzi, those who practiced the most forgot the least. She has been a critic of creative education and has stated that multi-tasking and new technology are both threats to effective education for children today.

And I agree. If it ain't broke, why try and fix it? Sometimes, the old ways really are the best!

The best way to remember is to teach what you learn

There is a huge amount we can learn from those with a lifetime of experience. The difficulty is being able to understand those experiences when we have so little of our own to compare them with, and no developed road map to follow.

Those that teach are there for a reason – they understand things that the novice has no conception of. Their experience is as precious as gold.

When I first found myself teaching, my problem was not whether I had the balls to address a class, or even remember what I was going to say, but putting it all into some semblance of meaningful order.

It turns out that the best way to remember stuff is to talk about it and to discuss and debate it with others. That's what tertiary education – college and university – is all about... exchanging ideas with people who are as enthusiastic and passionate about their chosen subject as you are.

Sharing information with others while it's still fresh in the mind results in better memory of the details and makes it easier to recall information later – even a long time later. Repeating or even just regurgitating information to others helps improve memory of key points and also the peripheral details that are usually the first to fade.

Researchers at Baylor University, Texas, investigated information recall in three groups of volunteers, each made up of 20 undergraduate students. Over the course of half an hour, the participants were shown 40 x 25-second film clips. The idea was to find out how well participants retained information about not only the general plot, but also the peripheral details such as sound, colour, gestures, and secondary background details.

One group was asked to tell someone about the films they'd seen after the viewing whilst another was given brief visual cues, like a still screenshot frame, before they were asked to recall the details. Several minutes after viewing the film, some of the students were asked what they remembered.

The students in the other group were asked the same questions, but up to seven days later. As time passed, all the participant's recollection of the information became less detailed, and as one would expect, the peripheral details faded from memory more quickly than the central themes. However... those who had immediately shared the information with friends and colleagues were found to retain the best memory, recalling both central and peripheral information.

This ability to actively replay or re-generate information – for example, by telling someone the particulars, as opposed to just simply re-reading the textbook and studying it again later, improves if you have talked about it. In fact a week later, memories of the films were just as good as they were immediately afterwards.

Talking to someone about what you've learned is a really effective way to remember information. Talking about learned information exercises more areas of the brain than are involved in just reading or reviewing notes.

As a musician, I found remembering musical passages was much easier after I had played them as part of the ensemble than when I learned them on their own. When I became a stage hypnotist, I practiced my lines out loud, imagining I was talking to an audience, and the memories became entrenched more quickly. Given all the pressures of performing a live one man show, especially in front of audiences that were not always the most well mannered, I needed to have the whole show off parrot-fashion. In other words, I needed to be able to carry on speaking and keeping the audience interested while at the same time my mind was busy dealing with with volunteers – and unexpected issues and problems.

Many years later, when I gave my first lecture, I realised that despite my well-prepared notes, I was not fluent and wasted valuable time referring to them. That first time speaking to an academic audience, I realised that winging it simply would not do! So I practiced the whole thing by talking to groups of people about specific aspects of my chosen subject, the more it began to flow – and I improved remarkably quickly.

Verbal, out-loud repetition involves many different parts of the brain. It exercises Broca's area, responsible for vocabulary, and Wernicke's area, which is responsible for grammar. And then there are the wholly unconscious mechanisms that turn thought into speech – the machinery that operates the mouth, the tongue, the vocal chords, and the lips, in fact everything that makes it possible to utter intelligible sounds so as to communicate our thoughts and ideas to others. All this activity working in unison, serves to strengthen our memory of the ideas we wish to express.

Now I wonder what other applications this philosophy might have. Certainly learning by rote in schools has been proven to be the best way when it comes to learning times tables and foreign languages. Practicing a musical instrument is very similar – practicing musical passages over and over, has exactly the same kind of rote learning.

How to improve memory

If you're revising for a big test, it's better to grab a pen and paper than your laptop or tablet, because making notes on paper helps our brains to remember information better than typing onto a tablet or smartphone.

Researchers in Japan asked 48 students between from age 18 to 29 to take down the details of a person's schedule using either pen and paper, or a tablet or a smartphone. Each participant was instructed to read a fictional conversation between characters discussing their plans in the near future – including 14 different personal appointments, class times and assignment deadline dates, but were not told to memorise the events.

Those who wrote the information in a notebook were able to record all the details faster than those who used an electronic device. After an hour – which included a break and an unrelated task to distract them from thinking about the calendar, the participants were placed in an MRI machine and their brains were scanned while they answered various questions about the schedule. Those who took written notes exhibited more activity in regions of their brain related to memory, language and navigation.

According to the team, writing with pen and paper involves unique, complex spatial and tactile information that provides the brain with more information to trigger memory. Pen and paper is more useful because paper contains more one-of-a-kind information for stronger memory recall.

Participants who used paper to write down the fictional schedule did so faster – in 11 minutes, rather than the 14 it took tablet users and the 16 it took smartphone users. In the question portion of the experiment, those who used pen and paper were only found to score better than the other volunteers on the simple test questions.

Those who used paper were found to exhibit more brain activity on recalling the schedule in those areas of the brain that are associated with language, imagery, visualisation, navigation, and most important of all, memory.

The activity in the hippocampus in particular indicates that using pen and paper may allow people to capture richer spatial details that can later be recalled and navigated in the creative mind, whereas digital devices have uniform scrolling up and down and standardised arrangement of text and picture size. If you remember a physical textbook printed on paper, you can close your eyes and visualise the photo one-third of the way down on the left-side page, as well as any notes in the margin.

It might be possible to improve recollection of notes recorded digitally by adding unique markings to the text, for example, highlighting, underlining, bold text or colours that mimic written note taking.

While the study focussed on learning and recollection, the use of paper may be better for other creative pursuits, such as composing music. The full findings of the study were published in the journal *Frontiers in behavioural Neuroscience*.

How stress affects memory

It is harder to remember things when you're stressed because all your attention is focussed on the immediate task in hand. Challenging situations make it harder to understand where you are and what's happening around you because stressful environments cause our brains to enter a fight or flight mode where we prefer reflexive actions over nuanced thought. All these reactions make it hard to remember when and where events took place, which stops us from storing unreliable information that we could then use to make snap decisions in the future.

Research by the University of Innsbruck, Austria, could help us understand why people who have been through extremely stressful events, such as war veterans or victims of crime, struggle to remember the details.

The researchers showed participants video clips of a positive, a negative and a neutral situation. The tests were designed to measure people's ability to remember information about where and when things happen. The positive clip showed a sex scene, while the negative clip showed an act of violence, making both stressful or challenging in different ways. After watching the challenging clips, the participants performed worse on memory tests. Compared to the neutral scene, both the sex scene and violent scene inhibited participants' ability to memorise where objects had been and notice patterns in two different tasks.

This suggests that difficult situations – whether positive or negative – cause the brain to drop intricate, context-based thought in favour of reflexive action. This might be an unconscious mechanism to stop us forming long term memories while we are stressed or excited, which can make us read our surroundings erratically. In the long term, it could stop us from making snap decisions based on unreliable information stored within these memories.

The researchers suggest that challenging moments may affect a region of the brain called the hippocampus, which is involved in long-term memory storage. The brain may dampen this region during potentially dangerous situations to stop us forming long-term memories, though further research is needed to understand exactly how this happens.

How memory can be biased

Researchers at Ohio State University believe that people's brains inaccurately remember cold-hard facts in order to support their own views on controversial topics.

When talking to other people, facts are likely to become even further distorted in line with the individual's personal opinions. In an experiment, researchers took four controversial societal topics and quizzed participants to see if they would remember the numbers. The experiment revealed that people naturally, and without meaning, spin figures in their head to fall in line with their own views. For example, when posed with statistics that the number of US immigrants had decreased by 1.1million between 2007 and 2014, participants who did not agree with immigration distorted the facts.

Many people believe that the number of Mexican immigrants was higher in 2014 than 2007. When they were presented with the true figures showing the opposite – 12.8million in 2008 and 11.7million in 2014 – people remembered the information wrongly and self-generated their own misinformation.

The researchers then monitored how this phenomenon was passed around social circles. Participants in the study were asked to write down the numbers of Mexican immigrants in 2007 and 2014 from memory having been informed of the facts earlier on. These figures were then passed to a second person and the process repeated, mimicking the passing of information via various independent conversations.

Researchers found that the more the information was relayed the more it began to resemble the view of the person passing the information. Shannon Poulsen, a doctoral student at Ohio State who conducted the study, said the first part of the experiment is interesting, but the second-stage revealing the spread of misinformation was worrying.

Memory and fake news

The consequences of fake news stories may have lingering effects on your perception.

According to a new study from University College Cork, Ireland, voters may develop false memories after reading a fake news report and be more likely to do so if the story lines up with their own beliefs.

Researchers recruited 3,140 eligible voters online a week before the 2018 referendum on legalising abortion and asked each how they planned to vote. The researchers then presented them with both legitimate and fabricated stories in the form of six news reports, two of which were falsified and involved campaigners engaging in illegal or inflammatory behaviour. They were also then asked if they had heard of the events described in the articles, and asked to detail any specific memories they had.

In subsequent questioning – and after being told that some of the reports were fake – nearly half of participants reported a memory for at least one of the fabricated events, and many tended to be steadfast in these beliefs. According to the researchers, participants were more likely to remember a falsehood about the opposing party and were even able to recount details not included in the fake reports.

The experiment demonstrates the ease with which fabricated memories can be planted, despite voter suspicion and even despite an explicit warning that they may have been shown fake news.

Cognitive tests also conducted for the study showed that low scores did not make a person more likely to form false memories – in fact these participants were more likely to remember false details that supported their opinions.

In highly emotional, partisan political contests, such as the 2020 US Presidential election, voters ‘remembered’ entirely false news stories – particularly, those concerning scandals that reflected poorly on the opposing candidate.

According to the world’s leading expert on memory, Elizabeth Loftus, of the University of California, Irvine, people will act on their fake memories, and it is often hard to convince them that the fake news really is fake. With the technology now available to make fake news incredibly convincing, how are we going to stop people being misled?

Just how reliable is your memory?

How many times have you found ourselves recanting a story of a past event we remember well when somebody suddenly butts in and corrects you? Don’t you just hate it when that happens?

The question is... who’s right and who’s wrong? As far as you are concerned, it’s your memory of the event that’s the accurate one, not the person who’s just about to ruin your story. And yet there’s always that nagging doubt the other person might just *be* right – it was a while ago after all, and you don’t remember the woman with the red shoes, and so you bow to social pressure and go along with the new version, if only not to appear argumentative.

Maybe the other guy was right. Before you know it, you've done a bit of self-correction and a new memory has been formed.

I hate it when that happens and I always make a mental note to stick to the original story in future... but that's not as easy as it might seem. The truth is, your memory (or the other guy’s memory) is unlikely to be 100% accurate anyway and people regularly replace their stored memory with a memory that is recounted by a friend or colleague – especially if it’s someone you trust.

Too bizarre to be believed? In an effort to prove the point, researchers from University College London arranged for volunteers to watch a short documentary film. The volunteers were split into two groups. Three days later, they returned to the lab one at a time to take a memory test and answer questions about the film. They were also asked how confident they were in their answers. They were then invited back to retake the test while the researchers scanned their brain activity.

The second time the volunteers were tested, they were given some help – they were given the answers of the other people in their group, along with a selection of photographs. Planted amongst the supplied answers were some deliberately incorrect answers to questions the volunteers had answered correctly and confidently the first time. At this point, the experiment turned into an object lesson in social conformity as each volunteer gave answers that were incorrect nearly 70% of the time.

But were the volunteers simply conforming to social demands, or had their memory of the film actually undergone modification? To find out, the researchers invited the subjects back to the lab to take the memory test yet again, telling them that the answers they had previously been fed were not those of their fellow film watchers, but random answers generated by a computer. Some of the responses reverted back to the original, correct ones, but close to 50% remained erroneous, implying that the subjects were relying on false memories implanted in the earlier session.

Of course there is always going to be some inaccuracy because participants in tests such as these sometimes perform in accordance with what they perceive to be the demands of the experiment. In other words, they say what they think the experimenter wants to hear. This especially happens when the whole process is obviously an experiment and an experiment to do with memory, and takes place in a laboratory. This is why researchers often disguise the purpose of experiments – Stanley Milgram for example told volunteers his experiments were about memory when in fact he was in reality measuring social compliance and obedience. However, an analysis of the brain scan data showed differences in brain activity between the persistent false memories and the temporary errors of social compliance.

The most outstanding feature of the false memories was strong simultaneous activation and connectivity between two areas – the hippocampus and the amygdala. The hippocampus is known to play a role in long-term memory formation, while the amygdala, usually thought of as the part of the brain which creates and regulates emotion and plays a role in social interaction.

The researchers at UCL believe that the amygdala may act as a gateway which connects the social and memory processing parts of our brain. The amygdala might be required to approve some types of memories, giving the OK for them to become part of the long-term memory. It could be that social reinforcement could influence the amygdala to persuade our brains to replace an accurate memory with a false one.

This study was reported in the respected journal *Science* and is a masterpiece of detective work. However, it does raise some serious questions concerning the validity of witness statements and testimonies in courts of law. If nothing else, the study demonstrated how incredibly easy it would be to fool innocent people into believing they have carried out a crime that never took place.

Derren Brown succeeded in doing this to an unsuspecting volunteer in one of his TV specials. The confused and distraught chap found himself in a mock police station admitting to a murder he had not committed.

In a series of experiments, psychologists found that during just three hours of interviews, normally sane adults could be convinced they had perpetrated a theft, an assault, or even attacked somebody with a weapon when they were teenagers. Using suggestive memory retrieval techniques, the researchers were able to trick 70% of the participants into believing they had committed an offence. In fact the effect was so strong that the participants ended up providing detailed descriptions of things that had never actually taken place.

This 'magic' figure of 70% keeps cropping up during these experiments and coincidentally, 70% is also the percentage of people who are suggestible enough to be hypnotised on a stage to believe a variety of nonsense, so I'm inclined to believe there is a connection here between the ability to implant a false memory and suggestibility. In addition, speaking with many of my hypnotherapist friends and colleagues, 70% is also the benchmark success rate in changing client's beliefs and attitudes sufficiently for them to be considered 'cured.'

Dr. Julia Shaw, a researcher from the University of Bedfordshire is particularly concerned about the effect these sorts of interviews may have on false memories.

'Our findings show that false memories of committing crime with police contact can be surprisingly easy to generate, and can have all the same kinds of complex details as real memories. All participants need to generate a richly detailed false memory in three hours in a friendly interview environment, where the interviewer introduces a few wrong details and uses poor memory-retrieval techniques.'

After hearing a false account of their teenage crime, peppered with true details of their life at that time, the participants appeared to 'internalise' the fabricated story.

The researchers told a participant about two events they had experienced as a teenager – one was true and the other false. By adding true details taken from interviews with the student's parents to the false events, the researchers were able to implant a series of false memories.

For the study, 60 students who had not been involved in any crimes were interviewed. The researchers contacted their parents and asked them to fill out a questionnaire about their child's teenage years. The students then took part in three 40-minute interviews that took place about a week apart.

In the first interview, researchers told the student about two events they had experienced as a teenager – even though only one of these events actually happened. For half of the students, the false event related to a crime that resulted in contact with police – an assault, assault with a weapon, or theft. For the other half, the false event was emotional in nature, including an attack by a dog or the loss of a large sum of money. When describing the false event to the student, the researchers included details about that time in the person's life that were actually true, details which had been taken from the parent's questionnaire. The participants were asked to explain what happened in each of the two events. If they had difficulty explaining the false event, the interviewer encouraged them to try anyway.

In the second and third interviews, the researchers again asked the students to recall as much as they could about both events. The students also described certain features of each memory, such as how vivid it was and how confident they were about it.

Dr. Shaw says this highlights the fundamental malleability of memory –

'This research speaks to the distinct possibility that most of us are likely able to generate rich false memories of emotional and criminal events. The findings have clear implications

for criminal interrogation and other aspects of legal procedure, affecting suspects, witnesses, and law-enforcers, as well as for interviews that take place as part of therapy. Understanding that these complex false memories exist, and that 'normal' individuals can be led to generate them quite easily, is the first step in preventing them from happening. By empirically demonstrating the harm that 'bad' interview techniques - those which are known to cause false memories - can cause, we can more readily convince interviewers to avoid them and use 'good' techniques instead.'

Of the 30 participants who were told they had committed a crime as a teenager, 21 (70%) were classified as having developed a false memory of the crime. Of those who were told a story about an emotional event that had never taken place, 23 (nearly 77%) formed false memories.

'Memory researchers have long speculated that certain tactics may lead people to recall crimes that never occurred, and thus could potentially lead to false confessions. This is the first study to provide evidence suggesting that full episodic false memories of committing crime can be generated in a controlled experimental setting.'

This research should make us all think twice! If the innocent can be bamboozled into believing they had committed an offence, then what effect could these tactics have on witnesses and jurors? It should also give rise to concern about what happens in the jury room when jury members are deliberating. If the figure of 70% is anywhere near accurate, it follows that 70% of jurors would be suggestible enough to have their memories of vital pieces of evidence modified. This would be especially true if the jury included one or two strong personalities with their own ideas about guilt and innocence. I have long argued that juries are unreliable and that justice would be better served by two or more professional assessors sitting alongside a judge. The theory that a defendant's fate will be decided by twelve good men and true is ludicrously outdated, Jurors are often prejudiced simply by a defendant's looks or appearance.

Greater care needs to be exercised by police and prosecutors, particularly if dealing with vulnerable and easily swayed or suggestible suspects. One step would be to teach awareness of the problem to interrogators. Another would be to remind courts and their officers – barristers and judges – that memory is a delicate state of mind and it is all too often fallible. This research could be the first step.

The effect of alcohol on memory

Alcohol alters the brain's chemistry and that makes memories difficult to overwrite.

Scientists at Johns Hopkins University, led by neurology professor Dr Norman Haughey, found evidence that alcohol not only prevents you from forgetting bad memories but can make those memories stronger. Alcohol strengthens the synapses (connections) between neurons connected to the brain's fear response centres, which means the more you try to drown your sorrows, the more difficult it is to overwrite traumatic memories.

People who suffer from PTSD often feel stressed or frightened – even when they are safe and in a safe environment. Recovery is less matter of forgetting past trauma and more about learning how to manage negative physical and emotional reactions to a particular memory. Hypnotherapy and its associated creative visualisation and relaxation techniques can provide valuable relief.

However, alcohol is a popular refuge to PTSD sufferers because it numbs awareness and helps with insomnia. In many ways, alcohol is a chemical cosh – the stupor of drunkenness is a warm, safe, fuzzy place. According to the US Department of Veterans Affairs, trauma sufferers are more likely than others to have a drink problem. It is estimated that between 60 to 80% of people with PTSD binge drink to self-medicate.

The Johns Hopkins study used experiments on laboratory mice to observe the effects of alcohol on fear responses to memories. The mice were 'fear trained' by being put in a cage with an electrified floor. As with Pavlov's experiments with dogs, which perfectly illustrated conditioning, the experimenters played six tones and followed them with a shock. The mice were then split into two groups with one group given water and the other, water with 20% ethanol (a constituent of alcohol) to drink.

The following day, researchers attempted to disassociate the mice's negative response to the tones by playing them without administering a shock. The mice given alcohol were far more likely to 'freeze' than the mice given only water, and brain tissue samples showed why... The mice given alcohol had many more receptors along their synapses than the mice that were given water. This is important because stronger synapses mean stronger memories, and thus stronger connections with the brain's fear response centres – the increased number receptors along the synapses left the traumatised mice in a permanent state of fear. The traumatised mice were then given Perampanel, a drug more commonly used to treat epilepsy that works by blocking the receptors. The freezing response in the alcohol dosed mice dropped significantly to 20%.

Alcohol is a very short-term solution to a long-term problem. PTSD sufferers would be better off seeking counselling and other forms of therapy. There are ways, including hypnotherapy, which can address emotional issues very rapidly. There are now techniques to create emotional distance for the client, although the memory will still be there.

Memory and 'regression'

Have you lived before? The evidence pointing to previous existences and past lives is truly underwhelming and yet there are those who make a comfortable living from persuading others to believe that they have lived before.

During the 1960's, 70's and early 80's, all sorts of research was carried out into hypnosis which was, at the time, undergoing something of a renaissance. One of the directions this research took was to explore the unlikely possibility that hypnosis regression could uncover 'past lives'.

It may be that the idea for this wholly speculative endeavour had its roots in some religious philosophies that promoted the idea that we have all lived before. Buddhists have long held the belief that we are reincarnated many times. Researchers in the field were mainly hippie types who had in the 1960s engaged in a brief flirtation with the mysticism – and drugs – that encouraged those ideas. Hypnosis presented itself as the ideal tool with which to further explore these ideas.

The technique transports subjects back through childhood, to the moment of birth, then back into the womb and then even further back into their 'pre-existence.'

There were some celebrated cases – Bridie Murphy for instance, whose uncanny accuracy

in recalling events and details from a previous life inspired her mentor, Morey Bernstein to write a book – *The Search for Bridie Murphy* – which was first published in 1956 and became a best seller. The truth of the matter is that despite Bridie's detailed descriptions of the bakery at the end of the street, and the cellar with the cobbled floor, Morey Bernstein forgot to do his research. If he had, he would have discovered that in 19th century Ireland, there was a bakery at the end of nearly every street in Dublin and every home had a cellar of some sort.

Then, in 1977 came the Bloxham tapes, in which the past-life experiences of various regressions were recorded on tape (hence the title) and became the focus of much media attention. Before long, anyone who fancied themselves as a cutting edge hypnotic researcher eagerly jumped on the regression bandwagon and a worryingly large contingent of practitioners started using their results to either prove reincarnation as fact, or at least to lend the theory credibility.

In 1980 John Gribbin even went so far as to say that as past life regression was now proven beyond any reasonable doubt, there should be no reason why future life progressions could not reveal er... the future. Sadly, this is no more than quackery on an epic scale.

We know that under hypnosis the imagination is often allowed to run free and there can also be a great desire to please the hypnotist, so it would seem more likely that past life regression was simply just a trick of the imagination. The technique relies heavily on leading questions which the hypnotised subject feels that they must respond to in the manner expected by the hypnotist. The fact that the hypnotist believes in this nonsense himself makes the whole charade even more compelling.

As a simple rule of thumb, the more receptive to suggestion and the more fertile the imagination of the subject, the greater the likelihood of a spectacular result. Stage hypnotists understand this concept well and exploit it to great effect.

But there is an immense danger here. What in the normal waking state is purely imaginary can appear very real in the hypnotic state. Some past life experiences have been so profound that they have exerted life changing effects on those who take part in them.

Admittedly, the people who have been so profoundly affected by their altogether subjective experience are relatively few in number, but nonetheless, common sense dictates a need for caution – it's one thing to persuade people to have an open mind about these things, but quite another to fill those minds, once open, with stuff and nonsense which could have unforeseen consequences.

Under the terms of the model conditions attached to the UK's 1952 Hypnotism Act, any type of regression is specifically prohibited, which is ironic, because this sort of phenomena lends itself perfectly to voyeuristic and often hilarious entertainment.

It is astonishing how many volunteers for this chicanery claim to have been Mary Queen of Scots (even some of the men) or Gengis Kahn, or Napoleon. Surely, they can't all have been illustrious characters from history. One is inevitably drawn to the conclusion that past life regression is simply a matter of imagination run riot combined with sketchy memories of old movies and a little knowledge of the novels of Charles Dickens, or worse, Mills & Boon bodice-rippers.

Fascinated by the phenomena of past life regression, or at least seduced by the prospect of making large amounts of money from it, I conducted my own experiments with a group

of volunteers in 1982.

The modus operandi was as follows; a group of seventy people were recruited from a leaflet drop in Liverpool, Glasgow and Manchester – three towns representative of the general population. The volunteers in each town were split into two groups, A & B.

Group A were told that they were to take part in a remarkable new kind of hypnosis therapy that was part of a national and ongoing project that would seek to uncover past lives and that this had proved to be successful with a remarkable number of people. They were individually hypnotised and were asked leading questions such as ‘what can you see, what year is it, where are you, who are you with, what are you wearing, what have you had to eat today?’ and so forth.

The Group A participants were then asked to describe their individual experiences. Twenty eight out of thirty five poured forth a remarkably descriptive assortment of death and destruction, of rape and pillage and on occasion, some quite harrowing role-play, and with one particular subject, more of an aristocratic disregard for one’s fellow humans as I have ever heard! ‘Men have been taken from this room and hanged!’ he stated authoritatively.

Meanwhile participants in group B were told that the experiment probably would not work as the process had already been exposed as a fake, and the experiment might simply confirm the results. Again, they were individually hypnotised and asked the exactly the same questions. The responses on these occasions were altogether more disappointing. Only seven out of thirty five were able to describe, with any conviction, anything that could be taken seriously by even the most enthusiastic supporter of past-life regression. What the exercise proved was quite clear. Imagination and suggestion plays an enormous part.

It’s not only the imagination that’s important, but also the *expectation* that the experiment will work.

If further proof were needed, the use of modern parlance that subjects used to describe their experiences of 18th century Liverpool was a dead giveaway. Likewise, when quizzed about the time, statements to the effect that the year was 500 BC (too much of a nice round number) did not lend credibility to their story (how would they know it was BC?) If a subject was an inhabitant of Ancient Rome, he would hardly refer to it as ancient, or have any inkling of the date of the birth of Christ. As an aside, when I asked one subject if he had any idea of the time, he replied ‘about a quarter past three’.

Nonetheless, there are people who really do believe they have lived before – and with such a passion – that they are more than willing to supply the most fantastic detail to anyone who cares to listen.

Those who care to listen are often hypnotherapists who also believe their clients have lived before and serve to encourage these wild fantasies for £50 plus VAT an hour.

On 16th Feb 2007, a woman appeared on the ‘This Morning’ show on ITV. She was so convinced that she had been on the Titanic (shame she wasn’t!) that she claimed she not only believed it but knew it to be true. Her hypnotist (shame on him) said that her case was a perfect example of ‘cryptamnesia’ – a word he had recently made up – and meant that the memories were undoubtedly true but had been repressed.

Not having a proper job, I was able to watch this interview and I did so with an increasing fascination. It soon became obvious that this woman’s greatest fantasy was to have been on the Titanic and close to Leonardo di Caprio, who wasn’t.

This unconscious desire had acted as a catalyst for the fantasy to establish itself. Then, over the months and years, the idea became so deeply ingrained in her consciousness that she started to not only fill in the details, she also started to feel the emotions. This woman wanted to have been there so badly that eventually she came to believe it, and no doubt egged on by her hypnotherapist, who coincidentally, had just written a book.

The woman is provided with an opportunity to tell her (or someone else's) story to a sympathetic programme researcher and thence to a viewing audience of a million people, none of whom have proper jobs either.

The modern day lifeboat refugee seizes the opportunity and waxes lyrical. The nice hypnotherapist uses a couple of big words to justify the whole charade and we are left in no doubt that everything she said was true – after all, he's a hypnotherapist and knows about these things. The 15 seconds of fame confirms her delusion and after their chauffeur-driven limousine to the studio and the dubious honour of being fawned over by Holly & Phil, off she goes to live happy ever after.

The real truth of the matter is that the woman is delusional and her hypnotherapist is merely stoking the fires of her imagination. Still, she's not doing any harm so no one suggests that she be taken to see a psychiatrist.

The same can be said of 'progression' – the mercifully short-lived art of getting subjects to progress into the future rather than regress into the dark and dismal past.

The common thread here is that subjects are much better at remembering some of the details of the past, which adds to the inventiveness of their role plays, but not so good at predicting the future. How many hypnotised people, when 'progressed' into the early 20th century would forget to mention 9/11 or the great Covid pandemic when asked about major events? The answer is... none. Which is why regression is more popular with clients and therapists alike, because both have something to work with!

In the course of my own pseudo-scientific investigation, and based on the information imparted by one very imaginative individual (female) I await with the greatest excitement the appointment of Michael Jackson as President of the United States.

And yet... innumerable books have been written supporting the theory that at least some of us have lived before. One must examine all these claims very closely. Good science stands up to test. There have been literally thousands of regressions that have been carried out over the last fifty years and there are bound to be a handful that simply can't be explained by anything other than pure coincidence. Having one positive result out of a thousand is not significant and is bound to be nothing more than chance. Nonetheless these flimsy results are seized upon by so-called experts and their way into urban mythology where they reside, unproven and unquestioned.

One of the most oft quoted examples relates to a boy in India who once regressed, was suddenly able to speak in a dialect that was previously unknown to him. The hard truth is that there is simply no proof – no one was there with a tape recorder or video camera – all we have is someone else's rather dubious word. Just because something appears in print does not endow it with substance or truth. These stories get around because like-minded enthusiasts talk about them among themselves and they are passed round, gathering momentum and embellishment as time goes on and we believe these tales because we are curious and suggestible beings.

An argument most frequently used to convince us that this phenomenon is real, is that

underneath all the vivid and occasionally lurid imaginings of the story-teller, these people are... ordinary. They lead spectacularly average and mundane lives – and there lies the next major clue!

It shouldn't come as anything of a surprise that some of these people use the hypnotic state as an escape from their humdrum lives and that once surrounded by microphones, video cameras and people wearing white coats, hooked up to expensive machines that go 'beep' that they are tempted, albeit unconsciously, to embellish their stories from session to session – after all, these 'scientists' are giving them a lot of attention!

This does not mean to say that they are making it up because that would be unkind, unfair and untrue, but nonetheless they do elaborate at an unconscious level. The danger comes when, encouraged by overzealous researchers, they start to believe it themselves. In that case, they may run the risk of being the subject of quite a different sort of examination by more men in white coats.

Our lives are full of coincidence. We see coincidences all around us and we are normally able to accept them as such without all the excitement that surrounds the coincidences of past life regression events. Some coincidences are truly amazing, but they do not and should not, point to anything more than pure fluke. Chaos Theoreticians could explain this concept much better than I, but for the time being, I will content myself with one example.

There are at least ten things which link the assassination of Presidents Abraham Lincoln and John F. Kennedy:

1. Lincoln was elected president in 1860, Kennedy in 1960:
2. Lincoln's secretary was called Kennedy – Kennedy's secretary was called Lincoln
3. Both assassins, John Wilkes Booth and Lee Harvey Oswald were Southerners in their 20's
4. Both Lincoln and Kennedy were shot in the head
5. Both Lincoln and Kennedy were shot on a Friday
6. Lincoln was shot in a theatre by a man who then hid in a warehouse – Kennedy was shot from a warehouse by a man who then hid a theatre
7. Both assassins died before they could face trial
8. Lincoln was succeeded by Andrew Johnson – Kennedy was succeeded by Lyndon Johnson
9. Andrew Johnson was born in 1808 – Lyndon Johnson was born in 1908
10. Kennedy was riding in a Lincoln when he was shot.

All pure coincidence! Of course the conspiracy theorists will read things into all this that will escape persons of a more sober frame of mind, but there is absolutely nothing more to it than sheer chance!

So, when we read of Bridie Murphy describing a cellar at the back of an old baker's shop in Dublin and then find out in the next chapter that the shop was explored and there was the cellar that Bridie was talking about, we should not be too surprised – or taken in.

Sheer guesswork can sometimes lead to a result, but the odds are stacked against the past-life theory. For every Bridie Murphy, there are thousands of uncorroborated statements from thousands of subjects. Even the tabloids now ignore them.

What about regression to childhood? Surely, as we have all had childhoods, we should be able to recover some of the lost memories of our youth?

Sadly not... Our brains simply don't have the capacity to remember every minute detail of our existences.

One of the purposes of dreaming is so the brain, our very own super computer, can sort out the things that are important and worth remembering from the trivia we simply don't need any more. A side-effect of this process is that even after relatively short periods of time, memories can become confused, which is why some witness statements, even those taken within a few short hours of an incident, are unreliable.

Childhood regression gives us next to nothing that we wouldn't be able to remember anyway. I say next to nothing because when one is relaxed and focused it's always possible to remember a little more of the detail – especially regarding occurrences that have taken place relatively recently. Still, one must bear in mind that some of that detail may too be a product of our imagination.

Determined to get to the bottom of this, in the early 1980's, I carried out a series of 'age regressions' on willing subjects just to see what happened. The following two examples are typical of the overall results.

The first experiment involved a man in his late twenties whom I 'regressed' to the age of seven. Asked what he got for Christmas that year, his eyes lit up and barely able to control his excitement, he pointed straight ahead and shouted 'a racing bike!' On checking with his parents, his enthusiasm turned out to be misplaced. There was no two ways about it, his parents distinctly remember that at seven years old they deemed him too young to have such a large bicycle and he had to wait until his 14th birthday for Father Christmas to oblige.

The second experiment involved the 'regression' a man of 32 back to the age of eight. I asked him to write his name on the blackboard and sure enough there appeared the spidery signature of an eight year old. The process was repeated for the ages of eleven and thirteen. To make sure that this experiment was carried out under the most rigorous of scientific conditions, I had already taken the precaution of obtaining copies of his handwriting from his parents who had lovingly and methodically kept some of his best school work as souvenirs of his growing up (much to his annoyance it has to be said!)

Alas, the comparison proved that the specimens obtained by meticulous process bore no resemblance to the originals. I repeated this experiment a dozen times with different volunteers and it produced the same result every time. So it would seem that the imagination really is king when it comes to these things. Shame – if cold reality hadn't intervened, I could have written a book about it!

Undaunted, I decided to go in search of devil-worshipping, animal sacrificing pedophiles...

False memory and sexual abuse

At the same time experiments with past-life regression were becoming popular, an altogether more sinister development was taking place in the world of hypnosis – a development that was to have tragic consequences for all that found themselves on the

receiving end of it, and one that would highlight the dangers of a little knowledge being a very dangerous thing.

Many hypnotherapists and amateur psychologists believe that Freud's theory of repression refers to 'repressed' memory – that is, the memory of a particular event is so unpleasant it becomes buried in the darkest and deepest recesses of the mind... forgotten... mysteriously absent from conscious memory.

The problem is, that was not what Freud said at all! – what Freud *actually* said was that the *emotions associated with the memories* of a traumatic event are repressed, at least until they either subside on their own, or are dealt with.

It is a little known fact that Sigmund Freud was a serial cocaine addict. Maybe it was the cocaine that muddled his thinking because he also believed cocaine would cure respiratory illness. When Freud was called in to examine United States President Woodrow Wilson, who had suddenly and inexplicably become paralysed down one side, Freud put it down to his being dominated by his father at a young age and the paralysis was the physical manifestation of the mind and body rebelling against his domineering dad. Er... no. It was a stroke. The problem is Freud wasn't nearly such a genius as is popularly believed. These days, many of Freud's theories have been debunked to the extent that some are deemed laughable by most psychologists.

So... the misnamed 'repressed memory syndrome' became disturbingly fashionable with some therapists and therapists who erroneously considered themselves adept in the use of hypnosis. The procedure based on the recovery of these non-existent 'repressed' memories means that the facts are made to fit the theory rather than the more scientifically correct practice of the theory fitting the facts.

Quite unwittingly, hypnotherapists had been accidentally implanting suggestions in patient's minds for decades, usually suggesting that they had been sexually abused, during childhood – usually by a close family member.

The client is usually told that the memory of these events was so painful they have been unable to recall it to their conscious mind – that is, without the help and 'guidance' of the hypnotist. Under hypnosis they would then be encouraged to fantasise the most awful imaginings. These would be recorded and later presented as 'evidence' to the police and the courts. The end result was that many particularly suggestible subjects unintentionally allowed their imaginations to take over and came to believe the fantasies were real – such was their blind faith in their therapist. Families were torn apart and previously respectable and decent people lost everything. In the United States of America, there are literally hundreds of wrongly imprisoned fathers, brothers, cousins, grandfathers and family friend, all of whom did not receive justice.

Common sense dictates that any peak experience will certainly be remembered! Yet there are those who would have us believe that a significant percentage of adult survivors of sexual abuse completely block out their traumatic memories with the unconscious, defensive mechanism of repression. We have been fooled into thinking that incest and child sexual abuse is epidemic. We have been led to believe that one in four women and one in six men have supposedly been sexually abused as children. This is manifestly and obviously untrue – were it not so tragic, the assertion would be laughable.

There are dozens of books available with dramatic titles such as *Incest: A Book for Survivors*, *The Courage to Heal*, *Secret Survivors*, *The Right to Innocence: Healing the Trauma of Childhood Sexual Abuse*, *The Ultimate Betrayal*, *Reclaiming the Heart: A*

Handbook of Help and Hope for Survivors of Incest, Betrayal of Innocence... the list goes on. There's even a book of poetry for survivors!

The authors of these books may be motivated by the best of intentions, but they are also hopelessly misguided, not to mention oblivious to the damage they may be doing to clients. They blatantly pull made-up statistics out of the air and present them as fact. Their books are loaded with lurid and compelling accounts of abuse, guaranteed to keep the reader turning the pages.

Another myth, swallowed whole by an uninformed and uncritical audience is that any symptoms of adult psychopathology – including but not limited to anxiety, panic attacks, depression, sexual dysfunction, relationship difficulties, abusive behaviour, eating disorders, loneliness, and suicide attempts – are the result and root cause of long-term reactions to childhood sexual abuse.

This assertion is incorrect. There are hundreds of reasons why people can be prone to anxiety, panic attacks, depression, sexual dysfunction, relationship difficulties, abusive behaviour, eating disorders, loneliness, and suicide attempts, so it is ludicrous to believe that accepting dredged-up imaginary memories as real and valid is a critical step in the recovery process – it isn't – it's more likely to make things worse. It's also a misconception that individual and group therapy can offer 'healing, resolution, and renewal.' If there's no substance to it, it obviously can't!

But the message of this school of therapy is clear – incest is epidemic, repression is rampant, recovery is possible, and therapy can help. *Ker-ching!!!* Yes folks, repressed memory therapy is a huge cash cow and the market leaders are doing very well out of it thank you! Their books have sold by the hundreds of thousands and the money they make disseminating their drivel on the lecture circuit is well worth catching the red-eye flight for, not to mention the applause and the adulation of the easily bamboozled that has elevated some of them to celebrity status.

Repression is very different than just ordinary forgetting, which is simply not thinking about an event or experience for a period of time and then having the ability to recall the memory without any degree of difficulty. Repression is supposed to be the active banishment to the unconscious of a traumatic event or a series of traumatic events, so that it cannot be retrieved.

Repressed memories are typically recovered during therapy sessions by dangerously under-qualified therapists who have no business playing around with vulnerable patient's minds. Many of them have been badly trained and advised and are liable to hold onto beliefs and ideas that are just plain wrong! Properly trained psychologists don't go in for repressed memory retrieval because they were taught about the obvious pitfalls of doing so when they were at university. Psychiatrists don't have anything to do with repressed memory work because they regard it as a harmful pseudoscience.

Nonetheless, the field is dominated by therapists who are themselves survivors – of weekend training courses which take place in hotel conference suites rather than universities or teaching hospitals, and where they're spoon fed a dubious psychobabble and charged real money for the privilege. In return for their cash, they get a certificate to hang on their wall with all the other weekend-course certificates they've collected. Interesting to note that when therapists get together to discuss the value of courses, one of the main topics of conversation is about the standard of the catering.

My concern – that is, my particular interest in this area, stems from the fact that when hypnosis is introduced into the equation – and you can bet your bottom dollar it will be – any false or imaginary thoughts and emotions will take on a life of their own and conspire to lead the recipient into a dreadful fantasy world of God only knows what.

Part of the problem is that no one, especially the therapist, seems able to recognise how incredibly easy it is to introduce a purely imaginary idea into the mind of a client – especially a client who is vulnerable or suggestible, as indeed most of them are, otherwise they wouldn't be seeing a therapist.

It takes considerable digging on the part of the therapist to unearth repressed memories of sexual abuse, and for one simple reason – there was no abuse in the first place. A repressed memory doesn't exist – until someone starts poking around in the darkest recesses of the imagination.

In the absence of any other constructive ideas, the repressed memory specialist will work toward the goal of uncovering a truth, which is actually a lie, and in the process, increase the severity of anxiety, panic attacks, depression, sexual dysfunction, relationship difficulties, abusive behaviour, eating disorders, loneliness, and suicide attempts.

In the process they'll see lives ruined, reputations destroyed, people falsely accused and imprisoned, relationships broken and families and communities torn apart – all the time feeling extremely smug about how terribly clever they are as they lead their unsuspecting clients into the demonic Narnia of tortured yet purely imagined memories!

Don't misunderstand me – most therapists do valuable and positive work. Neither are the repressed memory therapists not bad people – they're just naive and devoid of the imagination needed to see a bigger picture. And political correctness aside for a moment, they are almost universally women... make of that what you will.

Professor Elizabeth Loftus is the world's leading authority on memory, and particularly on repressed memory. She has been a tireless campaigner against the charlatanism and quackery that is the repressed memory business – a business that grew to industrial proportions in the period 1970 to 2000.

According to Professor Loftus, someone I greatly admire, *'Real abuse is never forgotten. Real memories are painful to put into words. Real victims live for years with the dark secret of their abusive past and only find the courage to discuss their childhood traumas in the supportive and empathic environment of therapy. We are not disputing those memories.'*

Nonetheless, therapists have at their disposal a formidable armoury of questioning, guided visualisation, age regression, hypnosis, body-memory interpretation, dream analysis, art therapy, rage and grief work and good old fashioned group therapy, where confused, susceptible and sometimes helpless people experience the sort of hysteria not seen since Nuremberg in the 1930s. Be warned – all the above examples are extremely aggressive and thoroughly dangerous therapeutic techniques.

When examined closely, all these 'techniques' are based on a common thread... guesswork.

Clients are encouraged to explore (imagine) how they would feel had they actually been abused. This is guaranteed to get the creative juices flowing. Then, they are assured, the memories will come flooding back.

Clients who deny they have ever been abused are told they are experiencing the classic symptoms of denial. But they mustn't worry, because with the help of the caring therapist, they will soon be on the road to recovery, with a whole new set of memories to call their own. In return, they will have to cut off all contact with their families, but not to worry – all that remains is the small matter of going to the police to have their fathers, uncles, brothers, teachers and scout masters arrested and sit back and watch the fallout as divorce proceedings are filed, jobs are lost and lawyers rub their greedy little hands together.

Forgive my sarcasm. Real memories of abuse can be dealt with in a rational and positive way. Repressed memories never can be – because they didn't exist until some therapist suggested they did. Then, the imagination freewheels – dark and unwelcome thoughts manifest themselves into even darker and more unwelcome thoughts that gradually subvert and overpower true memories. The longer the client dwells on such thoughts and ideas, the more real they become...

Therapists who indulge themselves doing this kind of work run the very real risk of doing irreparable harm to their clients and also to the innocents who inevitably become embroiled in the irreversible fall-out and who represent the unintended collateral damage that results from the triumph of ignorance and fantasy over reason.

Whenever I talk to groups of hypnotherapists, I take the opportunity to warn against the dangers of the accidental and inadvertent implanting of false ideas and memories in the minds of clients. One leading question is enough to set the client on a false path – just one misplaced word can plant a seed of doubt in a susceptible mind.

On at least three occasions I have ended up in an argument with people who vehemently insist that the root of all evil is because their client was sexually abused when they were a child – not bullying at school, or sudden bereavement, or unexpected unemployment, or debt, or bad neighbours, or having one's house burgled, or being robbed, mugged or swindled – these people simply will not consider alternatives and are therefore a clear and present danger to their clients.

So if your therapist starts telling you the reason you're experiencing anxiety, panic attacks, depression, sexual dysfunction, relationship difficulties, abusive behaviour, eating disorders, loneliness, and thinking of suicide because something terrible of a sexual nature happened when you were a child, something so awful you've forgotten all about it, *RUN FOR YOUR LIFE!* because you might find the real abuser is your therapist!

The other thing I recommend to all my classes is that EVERY therapist should read Elizabeth Loftus' book *THE MYTH OF REPRESSED MEMORY: FALSE MEMORIES AND ALLEGATIONS OF SEXUAL ABUSE*. It's a masterpiece of common sense – it's also a litany of terrible, tragic mistakes and miscarriages of justice and should be required reading for any therapist.

Horrifyingly, we don't need to go to America for examples of misguided, misapplied and flawed 'therapy' to drive the point home.

In Britain, the Cleveland child abuse scandal is the most well-known example of what can happen when things go badly wrong. Although neither regression or hypnosis was involved, I include a brief synopsis of the events because I hope it will serve not only as a dreadful illustration of what can happen when things really do go badly wrong, but also as a warning to those who charge in where angels fear to tread.

In Middlesbrough, in 1987, woefully under-qualified social workers were persuaded by one Dr. Marietta Higgs (whose pet theory – later rubbished in the courts) was that certain children in the community were being habitually sexually abused.

Dr. Higgs ordered the local authority to take the children of several innocent families into care, based on evidence which was at best flimsy and at worst built on a catastrophic lie. By the time the justice system had sorted it all out, the parents of at least one family (I going to call them family A in a genuine attempt to spare them further distress) were denied any access to their two children – three years and eighteen months old respectively – for nearly two years. This episode is a vile disgrace. If you are at all squeamish, I would skip the next few paragraphs if I were you.

The facts are as follows:

In June 1986 Dr. Marietta Higgs attended a conference in Leeds and had been impressed by the ‘pioneering’ work of two paediatricians, Dr. Christopher Hobbs and Dr. Jane Wynne. Eager to test the ‘Reflex Anal Dilation’ (RAD) theory presented at the conference, Dr. Higgs found herself presented with an opportunity to do so a month later in July 1986. It is now known that RAD can occur quite normally and spontaneously in young children of either sex.

Dr. Higgs proceeded with the test on the two girls from family A. The RAD test involved Dr. Higgs putting on a surgical glove and probing the girl’s bottoms before indulging in a guessing game as to whether or not the child may or may not have been bugged. This test was repeated on at least sixteen other occasions (something that surely amounts to child abuse in itself!) and the police were brought in, although no charges were ever preferred.

Six months later, in January 1987, Dr. Higgs was transferred to a new job at the Middlesbrough General Hospital. There, in cahoots with another paediatrician, Dr. Geoffrey Wyatt, she introduced the RAD test as a standard procedure. The result of this wickedly misguided error was that children in the Cleveland area started to be diagnosed as having been sexually (anally) abused on a scale never before seen anywhere in the world. The tabloids dutifully covered the story in the most minute detail and the nation was duly outraged. In the six months between February and July 1987, over 120 children had fallen into the clutches of Higgs and her fellow bungling incompetents, and by the summer of 1987, the hospital was brimming with ‘abused’ children. It was only when Dr. Wyatt ordered every child from a local primary school to attend the Middlesbrough Hospital and undergo the RAD test that questions started to be asked.

Meanwhile, the two children from family A were sent to live with foster parents who had three young daughters of their own, aged two, eight and ten. Again, relying on RAD tests, Higgs now claimed that all five girls were being abused and all were admitted to the hospital. The foster father was also then arrested, although again, no charges were brought. If ever there was a modern-day witch hunt, then this is it.

It was only in February 1988 that the whole debacle was exposed as the travesty of justice it had always been and the courts ordered the children to be returned to their parents. (In fact, only 80% of the children ever returned home. Some of them had been with foster parents for such a long time that the court deemed it wiser those particular children stay with the foster parents who had been looking after them for nearly two years. The parents of those children must be devastated.

Imagine for one moment if you will, that you are the mother or the father of two beautiful,

precious children. Imagine that for two or more years you've nursed your beautiful babies and watched them grow into beautiful little people – you've changed their nappies and got up countless times in the middle of the night to feed or comfort them. Imagine how overjoyed you were when they first said the words 'mummy' or 'daddy...' Imagine how precious they were the first time you held them in your arms and how you secretly promised that you would protect and cherish them forever.

Imagine then, the knock on the door in the early hours of the morning, the confusing questions in the police station, the snide comments the neighbours were making behind your back when the story appeared on the Six-o'clock News and everyone in the street looks away because everyone knows it's you that's had your children taken away. Imagine the agony, the mental anguish, the loneliness that will keep you awake night after night, wishing ever second of every minute of every hour of every day that you had your children back. Imagine the possibility that you may never get them back... Imagine the injustice of being accused of a crime too terrible to contemplate – all the time, knowing that you have done nothing wrong.

Faced with the overwhelming power of the state, how hopeless do you think you would feel? Just put the book down and think about that for a few moments. Only those who have children will know exactly what this means... If this happened to my child, I'd want to kill the bitch, and would quite happily, if I thought it would change anything.

Dr. Higgs, the genius behind the Cleveland child abuse disgrace and the social workers involved were never punished or sanctioned in any way, save for some mild criticism from the judge who presided over the enquiry, Dame Elizabeth Butler-Sloss.

Dame Elizabeth merely said that Higgs and Wyatt had been 'over confident' in their diagnoses. This amounts to no more than a slap on the wrist – and a gentle one at that. Although the Northern Regional Health Authority has barred Higgs from child abuse work, she is unrepentant and has never apologised. Neither has she ever admitted that she might have got it wrong. She has made it abundantly clear that she has not changed her views even though confronted with the fact that twenty years on, the two girls concerned (now grown up of course) insist beyond question that no abuse ever occurred.

It would be superfluous of me to pillory Dr. Higgs (the main instigator of this tragedy) further. But she now works as a paediatrician in Kent, is likely to speak with a slight Australian accent and goes under the name of Dr. Marietta Higgs.

As recently as December 2005, a seventy four page booklet was published in Scotland entitled 'A Can of Worms: Yes You Can! Working with Survivors of Childhood Sexual Abuse' and distributed to social workers and other healthcare professionals.

It encouraged practitioners to 'always' look for childhood sexual abuse as the root cause of mental health problems, from eating disorders to depression to alcoholism to drug addiction to personality disorders. The booklet states that 'there is almost no condition that the authors do not consider a sign of past abuse.' It also refers to something called 'body memories' (more twaddle) as if they were scientifically recognised symptoms (they're not) but it shows how easy it is to be taken in by this sort of thing.

This is highly dangerous stuff and oh so wrong on oh so many levels.

Some very eminent psychiatrists and psychologists have called for the booklet to be withdrawn. *'If the guidance set out in this booklet is followed, then many vulnerable people could be damaged... Some people who have not been sexually abused, but who have the*

'symptoms' will be led into a false belief that they were, and may experience false memories; their mental health will also be seriously damaged.'

The authors of this mammoth work of fiction are Dr. Sarah Nelson, a research fellow in the sociology department of Edinburgh University and Sue Hampson, a 'person centred counsellor' and former social worker.

Dr. Nelson has argued that many 'victims' of satanic sexual child abuse have suffered from eating disorders as a result of being forced to eat and drink such things as 'human and animal flesh, blood, urine, excrement, vomit, maggots, meat and drugged drinks.' One is tempted to believe that Dr. Nelson may have been taking drugs herself while writing this outrageously imaginative rubbish – she claims that more than 1,650 people have been victims of satanic abuse in Edinburgh alone!

Dr. Nelson's PhD. was not awarded for research into child abuse but for writing about paramilitaries in Northern Ireland. To research satanic abuse, she worked as an 'unqualified social worker.' If anyone deserves to be locked up in a secure prison, it's these two sick muppets!

This sort of disastrous mistake is not limited to over-zealous amateurs. The 'expert' testimony of Professor Sir Roy Meadows, which succeeded in putting at least four wholly innocent women in prison, has recently been more than just criticised. At the time of writing, there are at least another two cases pending appeal. Meadows' own invention, the much publicised Munchausen's Syndrome by Proxy has also received a savaging from the medical profession.

The General Medical Council accepted that Sir Roy's failures were neither 'calculated' nor 'wilful' but it added: *'However, your misguided belief in the truth of your arguments... is both disturbing and serious.'* Which is a polite way of saying Meadows was not only hopelessly wrong but dangerously incompetent into the bargain. What is really disturbing is that the courts swallowed his nonsense first time around – hook, line and sinker!

When referring to 'repressed memory syndrome', it makes more sense to refer to it as *false* memory syndrome. The imagination is nearly always more powerful than cold hard fact and this is especially true when working with children. Children are extremely suggestible and prone to flights of fancy from which adults are mercifully immune. The road that has led to this awareness is littered with casualties and is in my view the single most shameful misuse of 'therapy' ever to occur in its history. On occasions where therapists have taken to criticising the stage use of hypnosis, they might do well to remember that stage hypnotists have never left a trail of broken lives in the same way that some of their therapeutic counterparts have.

As hypnotherapists we must be extremely careful not to accidentally plant inappropriate suggestions in the minds of our subjects. Such mistakes can lead to catastrophe... and worse, a never ending procession of parasitic lawyers.

In the United States of America and to a much lesser extent in Europe, thousands of people have been hypnotised to relive alien abduction experiences. The fact that most of these so-called investigations have taken place in America is probably a lot to do with their culture and America's obsession with conspiracy theories involving government cover-ups and small grey space aliens kept in secret bunkers hundreds of feet below the Nevada desert at an Air Force base called Area 51 – a place so secret, that everyone in the world knows where it is.

Again, it is the effect of the individual's enhanced imagination whilst under hypnosis, coupled with suggestions provoked by the leading questions of the hypnotist that is the real culprit. The more widely held opinion is that these close encounters of the third kind are a sociological phenomenon rather than a cosmological one. Anyway, it begs the question, if space aliens wanted to examine our brains, why would they choose America?

What about forensic hypnosis? The gist of the idea is that under hypnosis, a subject, for example a witness to a crime or an accident, could be induced to recover memories forgotten since the incident they witnessed took place.

For all the reasons stated above, this kind of cockamamie poppycock is dangerous – not just for the accused, but also for the very principles of justice. The euphoric feeling created by profound relaxation makes a subject anxious to please the hypnotist or the person asking the questions. They will therefore be subject to unbridled imagination and fantasy. Any evidence offered to a court gleaned whilst under hypnosis would, by its very nature, be unreliable.

It's one thing to elicit a piece of information from someone under hypnosis which then leads to a tangible piece of evidence (a bloodstained knife for example), but information garnered solely under hypnosis must be treated with the same caution and with the same scepticism as any other kind of hearsay. In the United Kingdom, such evidence, if it were offered, would be laughed out of court, and so it should be.

All things considered, the current wisdom is that there is a great danger that the root cause of a problem will be linked to the speciality of the therapist, be that ritual satanic abuse, alien abduction, or global conspiracies involving imagined sinister forces rather than more mundane and realistic causes such as an individual's dissatisfaction with their lives or environment.

Nevertheless, it is impossible to deny that there is a great queue of people waiting to find out if they have lived before, been abducted by aliens or brain-washed by creepy government agencies. The bottom line is, we are easily led, and occasionally by the nose. Humans, like sheep, are far too easy to herd.

The repressed memory theory was so flawed, it should never have been taken seriously in the first place. But at long last, scientists have proved beyond any reasonable doubt that Repressed Memory Syndrome is not only unsafe, it has resulted in one of the greatest injustices of our time.

Conclusions

Conventional wisdom, based on sound research, suggests that traumatic events are rarely forgotten, never mind repressed. Unfortunately, it is only after several high profile (not to mention expensive) law suits that the American Medical Association issued warnings to patients about the unreliability of 'recovered' memories. The American Psychiatric Association is in agreement. There is a very real danger that the brain's emotional circuitry could be damaged by such careless whispers, with lasting effects on memory and mental health.

Emotional arousal tends to make memories stronger, especially if the emotion in question is part of a peak experience. Even when patients *know* that they didn't experience ritual or

satanic abuse for example, they may, in extreme cases, be tormented by recurring visions of such events. More recent research goes so far as to suggest that people who have been exposed to traumatic events will be damaged even further by being encouraged to relive disturbing memories and that process can diminish resilience and impede recovery. For the record, this is a view that I wholeheartedly agree with.

According to a 1996 report of the Crime Victims Compensation Program in Washington State, a survey of 183 claims of repressed memories of childhood abuse uncovered the following scary stuff;

- 100% of the patients reported torture or mutilation, yet no medical examinations were able to corroborate these claims
- 97% recovered memories of satanic abuse
- 76% claimed they remembered infant cannibalism
- 69% said they remembered being tortured with spiders

Even more distressing;

- 100% remained in therapy for at least three years after the so-called memories were 'uncovered'
- More than 50% were still in therapy five years after the event
- 10% reported that they had thoughts of suicide prior to therapy
- This level increased to 70% after therapy!
- Hospitalisations increased from 7% before memory recovery to 37% after memory recovery
- The instances of self-mutilation increased from 3% to 27%
- 83% of patients were employed prior to memory recovery whereas only 10% remained in employment three years into therapy
- 77% were married prior to therapy but 48% of these divorced after three years of therapy
- 23% of patients who had children prior to therapy lost custody of their children

Worse... *All of them* became estranged from their extended families.

These numbers raise disturbing questions about the validity of the increasingly widespread use of this sort of therapy. Remember, the vast majority of hypnotherapists, hypnoanalysts and NLP practitioners have no qualifications!!

Whereas traditional, tried and tested psychological approaches can work wonders and more often than not reduce psychological problems, recovered memory therapy, albeit unintentionally, can make things rapidly go from bad to worse – a prime example of fools rushing in where angels fear to tread!

Repressed memory has become part of our culture. In the United States, prior to 1973, barely 50 cases were reported. By 1994, due to the increased popularity fuelled by the increased publicity surrounding this new kind of therapy, the number had soared to over 40,000.

Neuroscientist Bruce McEwen, working at the Rockefeller University believes that chronic stress alters neural complexity. His research indicates that compromised functioning of the

prefrontal cortex may be associated with a person's ability to adequately distinguish reality from fiction, and compromised prefrontal cortex functioning may diminish a person's ability in the future to inhibit fearful or distressing memories. Now there's a recipe for disaster if ever there was one!

At Harvard University, psychologist Stephen Kosslyn has amassed a good deal of evidence showing that the same areas of the brain are activated when we see an object and when we close our eyes and imagine that object. All this supports the power and effectiveness of guided imagining during hypnosis.

But it must also serve as a health warning. I can find no qualified psychiatrist who goes along with notions of demonic possession or ritual satanic abuse. No papers have been published by psychologists or psychiatrists who have uncovered any such thing. On the contrary, these traumas have one thing in common – they were uncovered by unqualified amateurs! By amateurs, I mean overenthusiastic social workers, lay therapists and occasionally, individuals who are out to prove a point.

There are very few places a patient can go for deprogramming after a traumatic encounter with an incompetent or careless therapist.

Also at Harvard, psychologist Richard McNally suggests that the malleability of memory is merely a by-product of human imagination, inference and prediction – and again, I agree, but then I've always more comfortable with the well considered opinions of real scientists than the dubious pronouncements of the seeking course amateurs, especially if it fits in with my own common-sense and understanding.

The bottom line here is that recovered memory therapy needs to be seriously reconsidered before it is inevitably consigned to the rubbish bin of history. The problem is exacerbated by the fact that the brain is sometimes not a very discriminating processor of information.

Research carried out by Elizabeth Loftus at the University of Washington and later at the University of California-Irvine has proved beyond doubt that it can be nigh on impossible for some people to distinguish between real and falsely implanted memories. In 1995, together with her associate, Jacqueline Pickrell, Elizabeth Loftus interviewed the family members of 24 individuals in an information gathering exercise about their lives.

Profiles were constructed using real events, but, as an added bonus, a false story was added about being lost in a shopping mall at the age of five. A staggering 29% of the subjects remembered the false event and went on to provide details of it. This is exactly what happens under hypnosis – the beautifully relaxed feelings of calm and well-being hypnosis bestows acts as a breeding ground for false memories. What is one moment purely imaginary can the next, become all too real!

Stage hypnotists in particular are very much aware of this phenomenon and witness it on a nightly basis. But in Stage hypnosis, there is an implicit understanding between the hypnotist and the volunteer about the sort of behaviour expected and that whatever occurs during the course of a performance will have no relevance after the performance is over. In the therapeutic situation however, where there is an expectation on behalf of both the subject and the therapist that things are about to take a serious turn, the dangers of an overactive imagination should not be underestimated.

It is also interesting to note, while we're at it, that all too often, witness testimony in courts of law has led to guilty verdicts that have later been overturned when DNA evidence was

introduced. Witnesses are often unreliable – their recall of events can be manipulated by clever cross-questioning delivered by overpaid lawyers.

Of course, memories of traumatic events can serve as reminders to avoid potentially dangerous situations. The difference is, these are real events and real memories! The very real danger is that guided tours of imaginary events, particularly those that have strong emotional connotations, become fixed in the mind.

Real therapy depends on trust. When a patient is confronted by a therapist with a wall full of certificates, the suggestions imparted by that therapist can be assumed to be of the prestige variety, making the likelihood of disaster all the greater.

Can false memory be reversed?

We know that humans are susceptible to suggestion and that suggestion can also create false memories. New research however has found a way to reverse these memories.

While previous experiments focused on planting fictitious events in people's memories, teams from the UK and Germany have collaborated in developing interview techniques to undo them.

Participants were convinced they had endured childhood trauma with both gentle suggestions and aggressive tactics by interviewers that resulted in a 15 to 25% suggestion acceptance rate. To rid volunteers of the false memories, interviewers simply asked the participants to recall the source of the incident and told them that being pressured to repeatedly remember events can lead to the creation of false memories.

Aileen Oeberst at the University of Hagen in Germany told *Inverse* that if you can bring people to the point where they are aware of how the memory was implanted in the first place, you could empower them to stay closer to their own memories and recollections, and rule out the suggestion from other sources. Scientists conducted a follow up with participants one year later and found that 74% of participants either rejected the false memories or had no recollection of them at all.

Many previous studies with false memory developed methods for planting fictitious memories in a bid to understand how they can be used against individuals by the legal system. Some researchers said that the chances of determining whether someone is sharing a real or false memory of a crime that has been implanted in a person's recollection is 'no better than tossing a coin'. With this in mind, the new study aimed to reverse these potentially dangerous memories.

A study published in *Proceedings of the National Academy of Sciences* found that false memories of autobiographical events could create enormous problems in forensic settings, for example, with false accusations. While multiple studies have succeeded in inducing false memories in interview settings, research to reverse this effect is still a work in progress.

Recommended reading

In 2017, I had the great honour and pleasure of meeting Dr Elizabeth Loftus at the Emmanuel Centre in London, just a couple of minutes walk from the Houses of Parliament.

We were speaking at a three-day psychology conference on 'repressed' and false memory. I was hugely impressed by Dr. Loftus' passion and opposition to the sort of insanity that has allowed so many lives to be destroyed by an utterly false and avoidable premise. Her books on the subject are well worth reading and I wholeheartedly recommend them.

