

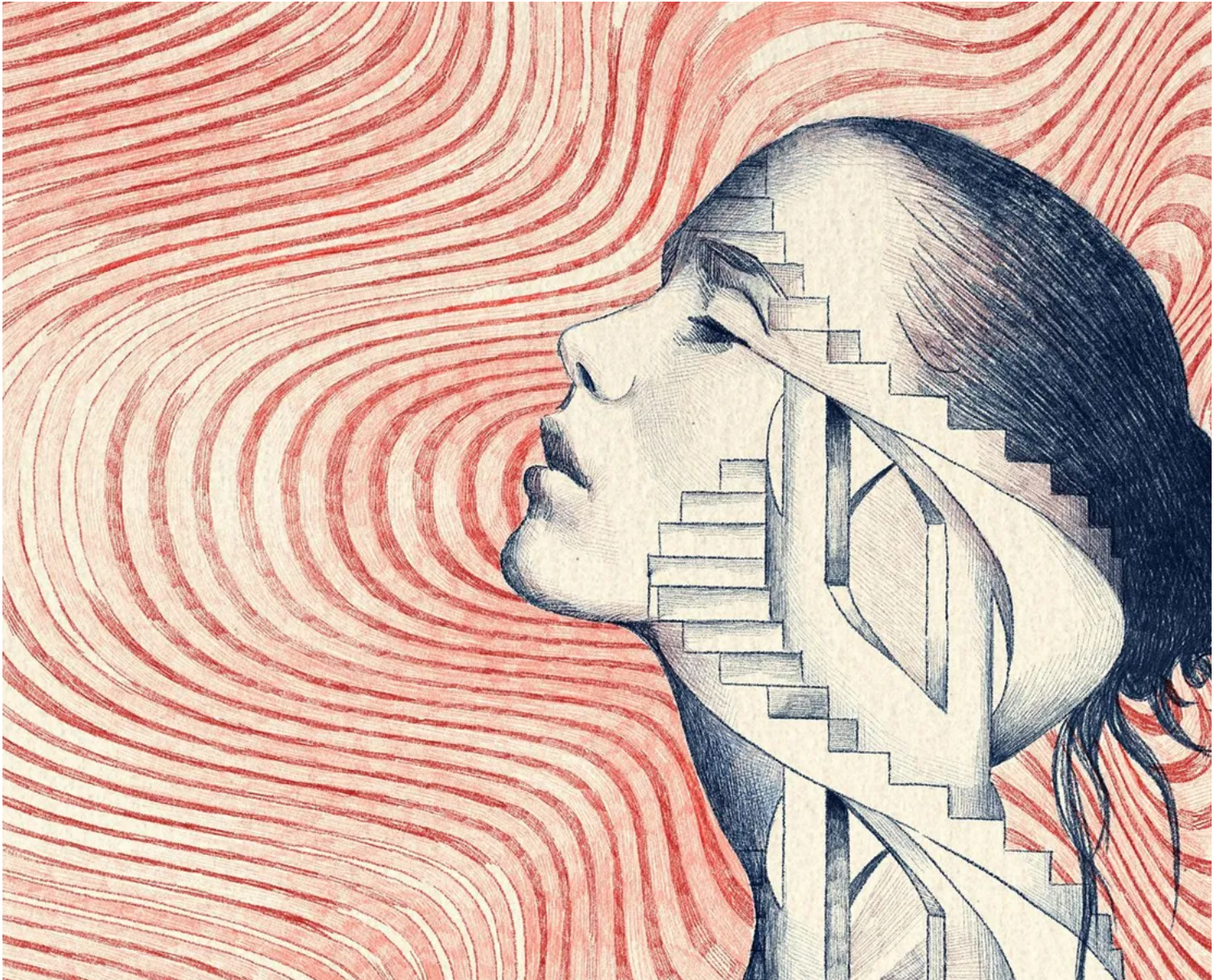


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The medical power of hypnosis



(Image credit: Emmanuel Lafont/BBC)



By Martha Henriques 19th May 2022

Hypnosis is emerging as a powerful medical treatment for pain, anxiety, PTSD and a range of other conditions. Can it shake off its reputation as a stage magician's trick?

Menu



When David Spiegel was told his next patient was waiting for him, he didn't need to ask the room number. He could hear her wheezing from halfway down the hall.

Entering the patient's room, he saw a 16-year-old girl with red hair sitting bolt upright in bed, knuckles white, in the midst of an asthma attack. By her side, her mother was crying. It was the third time the girl had been hospitalised for asthma in as many months.

Spiegel was a medical student on a paediatric rotation at Boston Children's Hospital in Massachusetts, US, in 1970. As part of his training, he was also taking a class in clinical hypnosis.

The young asthma patient's medical team had already tried to dilate her airways with injections of adrenaline. After two shots, the girl's attack was not subsiding. Spiegel didn't know what else to do. "Do you want to learn a breathing exercise?" he asked her.

She nodded, and so Spiegel hypnotised his first patient. Once the girl had entered the trance-like state characteristic of hypnosis, Spiegel was ready to make a suggestion – the "active ingredient" of hypnotic treatment, typically a carefully worded statement that will produce an involuntary response. But as the girl sat in bed, calm and focused, Spiegel wondered what suggestion he should make. They hadn't got to asthma in his hypnosis class yet.

"So I came up with something," Spiegel tells me, as he recalls the case. "I said, 'Each breath you take will be a little deeper and a little easier.'"

The improvisation worked. Within five minutes, the patient's wheezing had stopped and she was lying back in her bed, breathing comfortably. Her mother was no longer crying.

It was a formative encounter for doctor and patient. The girl grew up to train as a respiratory therapist, while Spiegel embarked on a career in clinical hypnosis. Over the next 50 years, he would go on to found the Center for Integrative Medicine at Stanford University and, by his reckoning, hypnotise more than 7,000 patients.



Hypnotic suggestions can lead to unusual and profound experiences, such as being unable to recognise your own reflection (Credit: Emmanuel Lafont/BBC)

At first glance, hypnosis seems like one of those psychological phenomena that just shouldn't work. What makes it so interesting is that it often does. Entering a hypnotic state, focusing intently and listening to a suggestion is, for many people, enough to make that suggestion a reality.

When a hypnotisable person is told their arm will start moving about as if all by itself, it will. When they hear their interlocked fingers will be impossible to separate, it will be like they are

held together with glue. And when told they won't recognise themselves in a mirror, **they'll see a vaguely familiar stranger** mimicking their movements through a pane of glass.

If the suggestion is one that chronic pain will subside, or that anxiety will gradually melt away, hypnosis becomes a valuable therapeutic tool. A growing body of evidence suggests that hypnosis is effective for many people experiencing **pain, anxiety, PTSD, a stressful labour and birth, irritable bowel syndrome**, and other complaints. For some of these conditions, hypnosis outcompetes standard treatments on cost, efficacy and side-effects.

But despite decades of research on its therapeutic value and a growing understanding of its mechanism in the brain, the uptake of clinical hypnosis has been remarkably slow. Much of that is down to the common misconception that hypnosis is little more than a stage magician's trick.

"Hypnosis is still tarred with the brush of being weird," says Spiegel. "People either say it's useless or it's dangerous, and nothing in the middle. Both are wrong."

Mesmeric beginnings

Practices reminiscent of hypnosis have existed **in many cultures around the world** for centuries. From the **trance in traditional southern African healing practices**, to the **shamanism of Siberia, Korea and Japan**, to **Native North American medicine**, many practices tap into the body's ability to enter a hypnosis-like state.

Catching on a little later in Europe and North America, the origins of the Western world's version of hypnosis dates back to the late 18th Century. In 1775, the German physician Franz Mesmer popularised **the theory of animal magnetism**. Mesmer believed an invisible, magnetic fluid flowed throughout the human body, influencing our health and behaviour.

Mesmer made it his task to manipulate this fluid, refining a technique that became known as "mesmerism". Practicing as a doctor in the Hapsburg Empire and later in Paris, he found that when he held the gaze of a patient and focused intently on them, sometimes making movements such as passing his hand from their shoulder down their arm, he achieved therapeutic results. He quickly became famous for his invention, and eccentric with it – in Paris his salons were "murky and suggestive, with drawn curtains, thick carpets and astrological wall-decorations", writes Jessica Riskin, associate professor of history at Stanford University. "Mesmer himself dressed impressively in a lilac taffeta gown."

Despite Mesmer's popularity, animal magnetism soon fell out of fashion, but the phenomenon Mesmer had explored gained traction in the 19th Century under a new name: hypnosis. A string of illustrious physicians **developed successive theories about its nature** – distancing hypnosis from its mesmeric origins. Most famously, the founding figure of Western psychotherapy, Sigmund Freud, made some of his most well-known analyses based on the case reports of patients such as "Anna O" (Bertha Pappenheim, an Austrian-Jewish feminist), who Freud's collaborator Josef Breuer treated with hypnosis from 1880-82. Freud later turned away from hypnosis in favour of his **"free association" technique**, but not before hypnotic therapy had shaped the foundations of Western psychotherapy.

Just as physicians were exploring the therapeutic potential of hypnosis, it was also **developing a gaudier reputation on the stage. Infamous popular hypnotists toured Europe**, suggesting their participants impersonate a chicken, become stiff as a board, or **witness an apparition of the Virgin Mary**.

Public debate about hypnosis heated up through the 1880s, until some countries **began enacting laws to regulate its use**. Concern about perceived far-reaching effects of hypnosis reached boiling point as the turn of the century approached. In September 1894, 22-year-old Ella Salamon died after an occultist hypnotised her in a remote Hungarian castle. **The story reverberated around the medical community and popular press** in Europe and North America.

Three months later in Germany, the Baroness Hedwig von Zedlitz und Neukirch, seeking treatment for stomach pains and headaches, met a "magnetic healer" named Czesław Czwiński. **He allegedly used hypnosis to seduce the Baroness** over a number of sessions.

(The Baroness maintained for many months she was truly in love with Czyński, who had appealing eyes, lush hair and white teeth). The same year, the fictional hypnotist Svengali was born in the bestselling novel *Trilby*, by George du Maurier. The public devoured the book alongside news reports of the Czyński case, which were said to have **uncanny parallels**.

Scandals like these fuelled **physicians' efforts to distance themselves from stage hypnotists and occultists**, and legitimise their own work. Many medical men argued **that hypnosis should not be performed by lay practitioners** at all.

Well over a century later, and this tension is still unresolved. Many of the academic researchers and clinical practitioners I spoke to maintain that lay hypnotism is risky, and its reputation has hindered the more widespread uptake of hypnosis in medicine. But with a **growing body of literature on its clinical efficacy** and new insights into its mechanism in the brain, researchers and clinicians are working hard to rehabilitate hypnosis.

The legacy of Mesmer's eccentric experiments is a kaleidoscopic array of research – from freewheeling mid-20th Century experiments mixing hypnotism, concentrated acid and snakes, to **studies published in top medical journals** on hypnosis as potent means of drug-free pain relief. Before I sift through it all, I decide it would be a good idea to go and experience hypnosis for myself.



Stage hypnosis can involve suggestions like impersonating an animal – but academics are concerned about potentially harmful consequences (Credit: Emmanuel Lafont/BBC)

As I approach cognitive neuroscientist Devin Terhune's office at Goldsmiths, University of London, one Monday afternoon, I'm nervous for two reasons.

First, I've never been hypnotised before, and although I've spoken to several researchers and clinicians by this point, knowing a bit about the theory doesn't make me feel prepared for the real thing. Some people report profound experiences during hypnosis, from out-of-body experiences to hallucinations. Second, there's the chance that precisely the opposite will happen, and I'll sit with my eyes closed for 20 minutes, failing to respond to any hypnotic suggestions at all.

Only around 10-15% of the population are classed as "highly hypnotisable", meaning they respond to the majority of suggestions. Known among the hypnosis community as "highs", this group has strong, sometimes profound experiences during hypnosis. The majority of the population, however, has a more muted reaction. These medium-hypnotisable individuals might respond to a few hypnotic suggestions, but fail the more challenging tests. Then the remaining 10-15% are known as "lows". A low may respond to a couple of easy suggestions, or even none at all.

High or low, research shows that you are stuck with your level of hypnotisability throughout life. A 1989 study at Stanford University tested 50 psychology freshmen students for hypnotisability and retested them 25 years later. The former classmates **had remarkably stable scores over the years**, more stable even than other individual differences such as intelligence.

What's behind this trait is still an emerging area of research. There have been hints that levels of dopamine, a neurotransmitter (chemical messenger) in the brain are linked to hypnotisability. Preliminary studies have pointed to **a gene called COMT**, which is involved in dopamine metabolism, but **the findings** have been **mixed** and a clear genetic picture has yet to emerge.

Another neurotransmitter, gamma-aminobutyric acid (GABA), has also been linked to hypnotisability. In one study at Stanford by Spiegel, Danielle DeSouza and colleagues, the researchers found that highly hypnotisable people had **higher levels of the neurotransmitter GABA in a part of the brain thought to be closely involved in hypnosis**. This brain region, the anterior cingulate cortex, is involved in cognitive control and volition, among other things. GABA has an inhibitory effect on brain cells, leading DeSouza and Spiegel to suggest that greater pools of GABA in this brain region could help highs slip into a hypnotic state more readily.

There are also some indicators of personality traits linked to hypnotisability – but not at the level of the "Big Five" traits: highs and lows alike can be extroverts or introverts, agreeable or disagreeable, neurotic or emotionally stable, open or closed to new experiences, conscientious or highly disorganised. However, some subtler characteristics are more commonly found in highs – such as being more imaginatively engaged, responsive to environmental cues or predisposed to self-transcendence, says Terhune.

Anecdotally, the hypnotism researchers I spoke to describe a few traits they often see in highs. They're the people who get so engrossed in a book they lose track of their surroundings, or who scream out loud at **jump scares** in films.

On my way to Terhune's office, I remember the time I turned up late to a new job after taking the underground the breadth of London in the wrong direction while buried in Naomi Alderman's *The Power*. I consider the fact that I avoid anything remotely scary at the cinema, ever since I let out a blood-curdling shriek during the infamously terrifying Harry Potter and the Chamber of Secrets.

I wonder whether I might be hypnotisable after all.

Involuntary response

Perched on top of the grey sofa in Terhune's office is a large cushion, positioned as if ready to support the head of someone who felt suddenly drowsy. This and a conspicuous plain black box, something like an oversized shoebox, are the only items in the room to distinguish it from countless other academics' offices in Goldsmith University's south London campus. Here, Terhune researches many aspects of consciousness, from hypnosis to metacognition, and these are his experimental props.

After taking consent to carry out a few basic tests to see how hypnotisable I am, Terhune scribbles a small dot on a whiteboard opposite the sofa, which he calls the "target", and invites me to focus on it. I do, and he begins to read from a script in a slow, steady voice:

"I'm about to help you relax, and meanwhile let me give you a set of instructions that will help you to gradually enter a state of hypnosis. Continue to focus closely on the target. Please look at the target. And while staring at it, keep listening closely to my words. You can become hypnotised if you are willing to do what I ask you to, and if you concentrate on the target and what I say..."

In a couple of minutes, my eyes are closed and I feel relaxed. Unusually relaxed. I notice it first in my face, as my habitual social smile slips away. Then I feel the tension in my shoulders ease and they droop a little further away from my ears. I lean back on the cushion behind my head.

I am relaxed, but I'm still aware of what's going on and my mind isn't completely blank. Occasional thoughts pop in and out of my head ("*So am I really hypnotised now? Could I snap out of it if I wanted to?*", "*I can feel my heart thumping, am I too anxious for this to work?*", "*How weird is this going to feel? Will I be able to control it?*"). I try not to chase the thoughts around in circles. Terhune reminds me to focus only on his voice, and the mental interruptions lessen.

"What I'd like you to do to start off is hold your arm out at the height of your shoulder," says Terhune.

I wait for my arm to start moving all by itself, but it stays relaxed by my side. I immediately feel a pinch of disappointment ("*Oh no, am I completely unhypnotisable?*"). Terhune pauses, and then continues in a calm, patient voice: "This is not yet a suggestion, don't worry, you can just hold your arm straight out in front of you, just like you normally would." ("*Oh ok, so I'm allowed to do that on purpose.*") I voluntarily hold out my arm. "There you go," he says.

Now comes the real suggestion.

"I want you to pay very close attention to your hand – how it feels, what is going on in it. Notice whether or not your hand is a little numb or tingling. The slight effort it takes to keep from bending your wrist. Pay very close attention to your hand. I want you to imagine you are holding something very heavy in your hand, such as a heavy book. Something very, very heavy. Hold the book in your hand. Now your hand and arm feel very heavy with the weight of the book pressing down."

Out of nowhere, there it is in my hand. Eyes still closed, I marvel at the weight of it. It feels just as though there really is a substantial volume in my outstretched hand – the only way I can tell it's not a real book is that I can't feel the touch of its cover in my palm.

"As it gets heavier and heavier, your arm moves down more and more, getting heavier, heavier, heavier, your hand goes down, down, all the way down..."

And it does. Terhune hardly has time to finish the suggestion before my hand hits the sofa. From the direction of his desk, I hear the scratching of pencil on paper. I still feel calm and relaxed, but somewhere in my head a small voice is saying, "*Wow!*"

Then another test – Terhune tells me to hold my arm out straight ahead. "This time what I want you to do is to think of your arm becoming incredibly stiff and rigid," he says.

And it's as if my elbow is made of dry, splintery wood. The sensation isn't as strong as the heavy book, but there is certainly a resistance there as I try to bend at the elbow. After a moment, I'm able to push through it and the sensation eases. But it's an effort.

Then a couple more tests – Terhune suggests I fall asleep and have a dream about hypnosis. I feel drowsy, and I'm aware of fleeting images. For a moment a white Scottish Terrier appears playing in a green field – but it's not a fully-fledged dream, more like the moments just before sleep when your mind starts to wander. And what Scottie dogs have to do with hypnosis, I have no idea.

Next Terhune tells me he's putting the tune Jingle Bells on, at very low volume at first and then he'll gradually turn it up. I don't hear anything but the rustle of trees in the wind beyond the window.

We end on two more tests. First, I hold my hands out as though holding a football at arms' length. Terhune suggests my hands are being pushed apart by an irresistible force. The sensation is a bit like **the invisible ball experiment**, but stronger.

This time I'm curious to see what happens if I push back a little. I tentatively try to bring my palms together, but the suggestion is hard to resist. In a few seconds, my arms are outstretched as wide as they can go.

In the last test, Terhune suggests my left arm becomes extremely heavy, and I have to try to lift my left hand out of my lap. It's about as difficult as when I tried to bend at my elbow – hard work. but I manage to lift my hand a few inches.

My tests over, Terhune counts slowly back from 20 to zero to walk me out of hypnosis. On five, I open my eyes. I feel a little dazed, as if I've overslept and woken up too quickly.



Hypnotisability is an individual difference, like intelligence, that varies from person to person
(Credit: Emmanuel Lafont/BBC)

Terhune tells me that from these tests, he estimates I fall pretty much bang in the middle of the normal distribution of hypnotisability.

The tests I responded to strongly (the heavy weight in my outstretched hand and the force pushing my hands apart) are the ones that will work for most people. In the heavy weight test, around 90% of the population will feel something, says Terhune – even he does, and he's a "low".

It's a little rarer to respond to the tests that I struggled with (the stiff arm and the heavy arm). The other two tests are very difficult – few people will respond to a suggestion to have a vivid dream on command, and even fewer will hear Jingle Bells playing in a silent room. Terhune threw in those tests on the off-chance that I might be a "high".

There were a couple of other tests he didn't attempt. One of them is agnosia, where the suggestion is to forget the name of a simple object, like a pair of scissors, and what it is for. Here, Terhune shows me what he would have done for that test – laying out a pair of scissors, along with some tape, a pen and a ruler on the black box I'd noticed earlier. He would have asked me to point to the scissors, which a very highly hypnotisable person wouldn't be able to do. If you then handed them a piece of paper and asked them to use the scissors, they would be perplexed. Another test is hypnotic amnesia, when someone is told to forget everything that happened during the hypnosis. But such tests are rare to respond to – typically around 12% of people will do, Terhune has found.

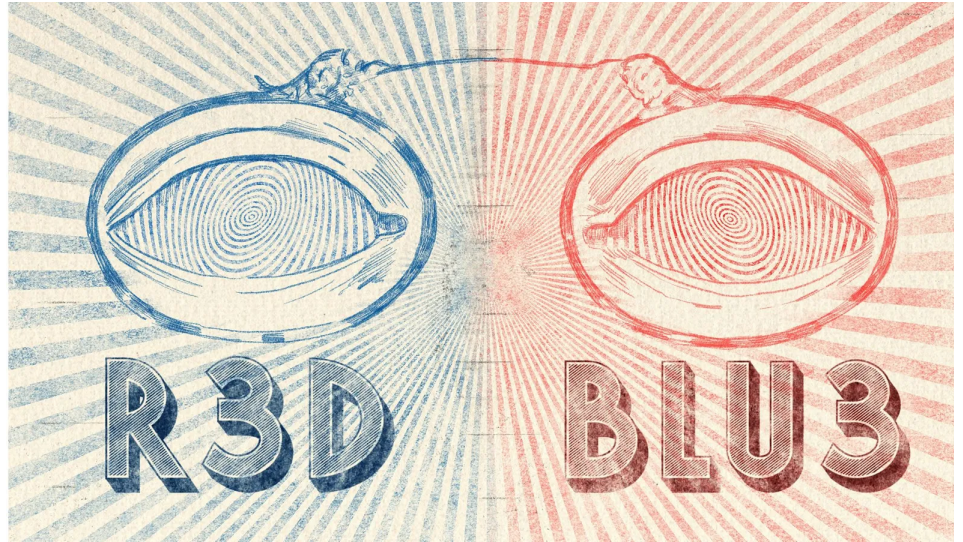
If you have never been hypnotised before, statistically your experience is likely to be reasonably similar to mine.

On the train home after my hypnosis, still with a residual feeling of calm, I mull over what just happened. As real as it felt to me, there is some **healthy scepticism about the credibility of subjective reports as scientific evidence**. My hypnosis was so unlike anything else I've experienced that I too am left hungry for a more objective account of what I experienced.

The hypnotised brain

The famous Stroop test offers some helpful evidence. This test measures how difficult people find it to identify the colour a word is written in when that word is the name of another colour. For instance, picture the word "red" written in blue ink. It takes people

When hypnotised participants were told they were no longer able to read, the letters became meaningless shapes – and so **they got quicker at identifying the colour of the mismatched words**, because they were no longer distracted by the words on the page.



In the Stroop test, the names of colours are spelled out in ink of a mismatched colour – and it can be a revealing test under hypnosis (Credit: Emmanuel Lafont/BBC)

There also appear to be differences in brain activity when someone is asked to "fake it", compared with when they are experiencing an involuntary response. In one small experiment, researchers studied 12 healthy participants in a positron emission tomography (PET) scanner, to measure metabolic activity in parts of the brain. In one set of tests, they were given the instruction to fake being unable to move their leg. In another set of tests, the same people were hypnotised and given the suggestion that their leg was paralysed. The brain imaging studies showed **distinct brain regions were activated in each of the two conditions**.

A later study expanded on the same hypnotism vs. faking it question, this time using an MRI scanner, which **gives more detail when looking at soft tissues**. This time, the researchers saw the motor cortex – part of the brain which controls body movements – showed activity in the patients under hypnosis. This suggests the hypnotised people were really preparing to try to move their limb, despite achieving no more movement than the group who were faking limb paralysis.

So, are there any hallmarks of the hypnotised brain that can explain the peculiar sensation and experiences of a hypnotic response? It's an emerging area of research, but there are a couple of candidates.

Part of the story can be found in the brain's salience network, says Spiegel. This network **helps us identify which aspects of our environment are worth paying attention to** – sifting out relevant information from the swathes of sensory data that our brains are inundated with every second of the day. In one experiment, he and his colleagues **hypnotised both "highs" and "lows" while scanning their brains**. The highs had lowered activity in the salience network during hypnosis. "When that happens, you're less worried about what else might be going on," says Spiegel. "It allows you to disconnect from the rest of the world."

That might go some way to explaining the feeling of intense focus during hypnosis, but what about the strange sensation that your body is doing things of its own accord?

The best evidence points to the brain's default mode network, says Terhune, a set of brain regions that are **most active when we are at rest**. "It's believed to be integrally involved in self-related mentation – daydreaming, mind-wandering and so on," says Terhune.

One part of this network in particular – the anterior medial pre-frontal cortex – is thought to

metacognition [thinking about thinking], and the ability to control your own thoughts," says Terhune. "Those are processes that might be dampened in response to hypnotic induction."

With temporarily impaired activity in the default mode network, it may become harder to think about yourself as a conscious agent. This might be at the root of the remarkable sensation that you are not an entirely autonomous over your own body.

The relevance of this part of the default mode network in hypnosis has been found in many studies, but Terhune adds a note of caution: "Sometimes we don't know what the causal ingredient is." For example, the medial pre-frontal cortex is also involved making inferences about other people's mental states. It could be that while you're being hypnotised, you also happen to be thinking about the experimenter and what they're thinking.

"But that's the best line of evidence," Terhune sums up. "It's a reduction in self-related processing and metacognition."

From lab to clinic

While academic experimenters tease out the details of why hypnosis works the way it does, clinicians are making use of its effects – as they have been doing for centuries.

Perhaps the best explored medical use for hypnosis is the tantalising promise of **relieving pain without drugs**. A number of meta-analyses (research papers that analyse the findings of a comprehensive range of studies, assessing each for their quality and design) have found consistent results. Participants who are hypnotised experience **more pain relief than around 73% of control participants**, found one recent meta-analysis of 45 trials on hypnosis for pain relief. Two meta-analyses from the early 2000s concluded that hypnosis was **superior to standard care** and urged for **it to be used more widely in clinical settings**. And as you might expect, these effects aren't equal across the board – **the more hypnotisable someone is, the greater the reduction in their pain**, according to a review of 85 controlled experimental studies by authors including Terhune.

Some of the most exciting findings have been in the realm of chronic pain, defined as pain lasting more than three months. In the UK, between **13-50% of people experience chronic pain**, while in the US, **around one-third of people do**. Globally, **nearly two billion people experience recurrent tension headaches**, the most common type of chronic pain. By its nature, chronic pain is particularly difficult to treat with drugs, as **opioid analgesics are addictive, come with a burden of side-effects** and contribute to the **opioid epidemic**.

Hypnosis has been shown to lower both pain intensity and its interference in daily life, **one meta-analysis of nine randomised controlled trials found**, with patients receiving eight or more sessions experiencing significant pain relief.

In 2000, Spiegel carried out **a randomised trial of hypnotic analgesia** in 241 patients undergoing invasive surgical procedures performed without a general anaesthetic. The patients were split into three groups: one group received standard care, one had a friendly nurse providing additional support, and one was hypnotised. All three groups had access to a button with which they could self-administer a cocktail of fentanyl, powerful opioid painkiller, and midazolam, a drug that causes drowsiness and forgetfulness. Every 15 minutes before, during and after the procedures, patients were asked to rate their pain and anxiety levels from zero (calm and pain-free) to 10 (deep fear, anxiety and pain).

The standard care group used more than double the amount of fentanyl and midazolam than either the group with the friendly nurse or the hypnotised group. The length of time it took to carry out the operation was also longest in the standard-care group (78 minutes on average), and shortest among the hypnotised group (61 minutes).

"The anxiety levels were zero in the hypnosis group," says Spiegel. "There was just less trouble doing the procedure."

To his frustration, there was no notable uptick in the use of clinical hypnosis after the paper. Spiegel has now developed an app for self-hypnosis called Reveri, which he hopes will make evidence-based hypnotherapy more broadly available to those who wish to access it.

Given the efficacy of hypnotic treatment for a growing range of conditions, why has mainstreaming of the practice been so slow?

The coercion question

Most of the reservations come down not to a lack of evidence, but a mixture of concerns and misconceptions about the involuntary nature of the hypnotic response.

"This is one of the most widespread myths," says Terhune. "That if you come into a hypnosis session with me, I can control you, get you to do untoward things. The evidence for this is very poor."

Amanda Barnier, a professor of cognitive science at Macquarie University in Australia, explored this question **in a study that made clever use of postcards**. She divided study participants into two groups – one group of highly hypnotisable people were given a large stack of postcards and, after hypnotic induction, given the suggestion that they would send a postcard to Barnier every day until she gave them a call.

The next day, the postcards began to arrive – and they kept coming. When Barnier eventually called up her participants again, their reflections were fascinating. "The people who got the hypnosis said, 'Oh my God, it was out of my control. It was pouring with rain and I would still go out and post that postcard for you, I couldn't help myself. I was compelled,'" Barnier recalls.

But the experiment didn't end there. Barnier also used a control group – people who hadn't been hypnotised, but simply asked to send her a postcard every day. "I said, 'I'm a PhD student and I'm just trying to write up my thesis. Here's some postcards, will you just send me one every single day?'"

Perhaps surprisingly, this group also obliged. When Barnier called them up to talk about their experience, they were more prosaic. "They said, 'Well, you seemed desperate.'"

From that, Barnier concluded that the hypnotised participants weren't being driven to do anything they wouldn't have done otherwise – even if it might feel that way.

Earlier experiments, carried out at a time of looser ethical regulations, found more extreme requests elicited a similar response.

In 1939, **one alarming experiment** gave deeply hypnotised participants the suggestion to grab a large diamondback rattlesnake. The participants were told the snake was just a coil of rope. One participant made to grab it – but was prevented from doing so by a pane of glass. Another came out of hypnosis and refused. Two other hypnotised participants weren't even told the snake was a coil of rope, and both went to grab it anyway. Two of the participants were then given the suggestion that they were angry with an experimental assistant for putting them in such a dangerous situation. They were told they would be unable to resist throwing a flask of concentrated acid in the assistant's face – both did (in a sleight of hand, the real flask of acid had been switched with a harmless liquid the same colour).

A control group of unhypnotised people were also asked to take part – but most didn't get far as they were terrified of the snake and wouldn't go near it. The findings were replicated in **another study in 1952**, but later investigations criticised that the controls hadn't been put under the same pressure as the hypnotised group, making the comparison unfair.

An experiment in 1973 sought to address the question more robustly, putting hypnotised and non-hypnotised participants on an equal footing. One group of university students was hypnotised and given the suggestion to go out on campus and sell what they were told was heroin, the other group was simply asked – both went out and did it. The experimenters got into trouble though, because the father of one of the participants was a professor on campus. He was **"less than delighted"** to find his daughter had been attempting to peddle heroin to her peers.

"The conclusion is, undergrad students are willing to do some crazy things," says Terhune.

As with Barnier's finding, many of the surprising things that people do under hypnosis aren't down to the hypnosis at all, but simply that people will do all sorts of outlandish things if you ask.

What these experiments don't give definitive answers on, though, is whether someone can genuinely be coerced to do something against their will under hypnosis. But beyond the world of academia, there are many cases in which hypnosis has been used with harmful intent.

Use and abuse

It's night, with traffic passing along a busy North London road outside a corner shop. Inside, the shopkeeper is moving a few items around when a confident-looking young man enters, wearing a grey T-shirt, and a dark jacket and jeans. He approaches the shopkeeper and touches him on the arm. From **the grainy CCTV footage**, a few strange things happen next. The shopkeeper stands rooted to the spot, appearing to have entered a trance. The man touches the man's chest and his shoulder and then goes through his pockets. The shopkeeper stands by, not appearing to notice. Only as the thief leaves does the shopkeeper appear to realise he has been robbed.

"As a scientist, these cases are difficult to interpret because we don't know the full circumstances," says Terhune. "Could you use distraction to commit a crime? Sure. Could you put someone in a trance and rob them or assault them? It's very difficult to say and it's very complicated."

The North London robbery is just one of a long and in some cases **harrowing** list of crimes, many of them involving **sexual abuse of female patients** by **rogue hypnotists**, often exploiting a **power imbalance** between abuser and victim.

"These are obviously disgusting and horrible," says Terhune. "These cases are difficult because they're already occurring in an unusual power dynamic with an expert or professional that someone is likely to trust."

"As horrible as these events are, they occur in many situations with differential power relationships, [such as] coaches, teachers or medical professionals."

As well as the power dynamic, there are other factors that are hard to disentangle, says Barnier, such as perceptions or stereotypes about hypnosis that people may hold (such as, "In hypnosis I lose control"). Given this knot of factors, "it's not clear that hypnosis itself is the **agent of vulnerability versus the broader context**", says Barnier.

All this begs the question, how can someone seeking hypnosis take precautions to make sure their treatment is as safe as possible? It boils down to one golden rule: "If someone can't treat you without hypnosis, they shouldn't be treating you with hypnosis," says Barnier.

Every clinician and researcher I contacted for this story, including Hilary Walker, chief executive of the British Society of Clinical and Academic Hypnosis, and Joe Tramontana, president-elect of the American Society of Clinical Hypnosis, agreed with this approach. The UK's Royal College of Psychiatrists also **recommends always checking a therapist's qualifications**: "Hypnotherapy should only be performed by qualified health professionals who are accountable to a professional body," the college writes on its website. "For example, they should be a medical doctor, psychologist, nurse, occupational therapist or physiotherapist."

One reason this matters is because in many countries, including the UK and Australia, there is no official body regulating lay hypnotism. "In Australia, you will find people who have gone to weekend courses or six months at a hypnosis academy," says Barnier. And if something goes awry after treatment? "There's no professional agency that you can go and complain to."

In some countries, hypnotherapy colleges may choose to be associated with an organisation that registers lay hypnotherapists – in the UK, for instance, there is the General Hypnotherapy Standards Council (GHSC). But, as the council tells me, none of

The GHSC, for instance, asks hypnotherapists who sign up to its register to abide by a **code of ethics**, and runs a complaints procedure open to patients of its registered members. "However, because hypnotherapy is not subject to statutory regulation, neither we nor any of the other organisations [who register lay hypnotists] can prevent a practitioner who has been removed from registration from continuing to practice independently," a spokesperson for the council says.

The take-home message from clinicians and professional bodies I spoke to remains to make sure any person you seek treatment from has appropriate health qualifications. And, if suffering from a health complaint, you should consult your GP.



Hypnosis can seem esoteric and strange, but in many ways we have hypnosis-like experiences every day (Credit: Emmanuel Lafont/BBC)

Despite its lingering reputation as being "kookie", as Barnier puts it, hypnosis is not so distant from many experiences we have in everyday life.

For many people, it's a regular occurrence to get lost in a good book, or become so absorbed in a film (perhaps even a Harry Potter film) it can become overwhelming. Or perhaps you find yourself oblivious to landmarks by the road as you drive along the motorway. If that's happened to you, then you've experienced something not so different from hypnosis, says Barnier. There are even **parallels between becoming absorbed in your smartphone and hypnosis** – both distort time perception, reduce awareness of your external environment, and bring a reduced sense of agency (that feeling you just can't stop scrolling).

But if you don't often experience these kinds of deep absorption, that's normal too. "It's just like the difference between extraversion and introversion," says Barnier. "Some people are just living in their skins in different ways in the world."

In the same way hypnosis is not so different from the everyday world, as a medical intervention it has a lot in common with other tools. Take a needle and syringe, or a scalpel – in the wrong hands, each has the potential to do great harm. But in skilled hands they can be powerful tools for good.

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