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# EdgeScience

Current Research and Insights

## SPECIAL ISSUE ON PSI

## Trauma Displaced in Time

## Autistics, Savants, and Psi

## A Multi-Sensory Clairvoyant

A publication of the Society for Scientific Exploration

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**Why EdgeScience?** Because, contrary to public perception, scientific knowledge is still full of unknowns. What remains to be discovered—what we don't know—very likely dwarfs what we do know. And what we think we know may not be entirely correct or fully understood. Anomalies, which researchers tend to sweep under the rug, should be actively pursued as clues to potential breakthroughs and new directions in science.



**The Society for Scientific Exploration** (SSE) is a professional organization of scientists and scholars who study unusual and unexplained phenomena. The primary goal of the Society is to provide a professional forum for presentations, criticism, and debate concerning topics which are for various reasons ignored or studied inadequately within mainstream science. A secondary goal is to promote improved understanding of those factors that unnecessarily limit the scope of scientific inquiry, such as sociological constraints, restrictive world views, hidden theoretical assumptions, and the temptation to convert prevailing theory into prevailing dogma. Topics under investigation cover a wide spectrum. At one end are apparent anomalies in well established disciplines. At the other, we find paradoxical phenomena that belong to no established discipline and therefore may offer the greatest potential for scientific advance and the expansion of human knowledge. The SSE was founded in 1982 and has approximately 800 members in 45 countries worldwide. The Society also publishes the peer-reviewed *Journal of Scientific Exploration,* and holds annual meetings in the U.S. and biennial meetings in Europe. Associate and student memberships are available to the public. To join the Society, or for more information, visit the website at scientificexploration.org.




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Michael Brooks

# Beyond the Safe Zones of Science

*Daring ideas are like chessmen moved forward. They may be beaten, but they may start a winning game.* — Johann Wolfgang von Goethe

You might think it's hard to take science by surprise. After all, aren't scientists the clever ones, the know-it-alls? Aren't they revered as the people with answers to every question?

It's certainly true that science has made extraordinary inroads into discovering how the universe and everything within it ticks along. Science has been successful for the most part in explaining why things are as they are. But in the process they have also discovered the broad horizon of their ignorance.

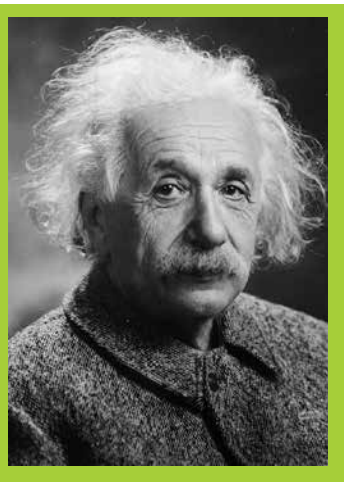
That is not a problem; on the contrary, it is an enormous gain. In science, ignorance is not something to be ashamed of, something to hide, but something to acknowledge and explore. Just as the tide's ebb and flow created the perfect conditions for life to arise at the edge of Earth's oceans, the place where certainty gives way to uncertainty—the shoreline of our ignorance—is fertile ground indeed.

In much of science, the parts we know well, there is relatively little to be gained. Here, further up the beach, we might determine a constant to another decimal place; there, we seek to make a slightly more accurate measurement of the time it takes for a signal to travel between neurons in the brain. We find a catalyst that will make a chemical reaction happen a little more quickly or efficiently. We discover another distant star to enter into our catalogues, and so on. Such incremental gains are always there for the taking, pebbles to be turned over and inspected. These advances are added to the canon of science, but they don't change anything—not really. That is why they don't make front-page news. Newton was too humble when he wrote about his life's work shortly before his death. He said, "I was like a boy playing on the sea-shore, and diverting myself now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me." It's not true: much of what he did was reaching into the murky water and pulling out surprising new truths.

Many have followed in his footsteps, moving out of the safe zone, venturing beyond the very limits of our knowledge and peering into the gloom until they could make out the vague shape of something intriguing. Then, grabbing all the tools at their disposal, they plunged into the water, intent on bringing that shadowy form back on to dry land.

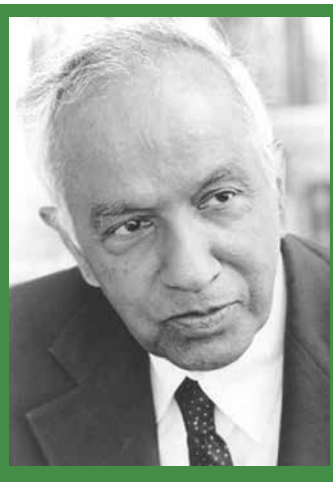
It is a dangerous thing to do. Here at the edge of uncertainty we have discovered shocking things—things that have made some scientists beat a hasty retreat. It was here, for instance, that Henri Poincaré discovered that a resolution to certain anomalies in electromagnetic theory would require rethinking the nature of time. Poincaré was too perturbed by the discovery to press on; it was left to Albert Einstein to venture into dark waters and hunt out the special theory of relativity. The astronomer Arthur Eddington had once done some work that suggested the existence of black holes, but he hated the implications: that there were rips in the fabric of the universe. So when Subrahmanyan Chandrasekhar confirmed the suggestion with a mathematical proof, Eddington railed against it, and made Chandrasekhar's life a misery. Neuroscientist Benjamin Libet was another fugitive from

Henri Poincaré



Albert Einstein

Arthur Eddington



Subrahmanyan Chandrasekhar

unwelcome truth; when he performed an experiment showing that humans lacked free will, he dedicated the rest of his life to proving himself wrong. Good science—important science—can be as unnerving as it is enlightening.

Sometimes work at the edge of uncertainty is without tangible fruit: it simply uncovers our ignorance. From time to time, for example, we will discover that our previous scientific understanding was built on a flimsy foundation and must be urgently shored up—or even abandoned. This is not the disaster it might seem, because science is fickle: it reserves the right to change its mind. Some scientists might make definitive statements, but others must then take on the task of trying to undermine them. Very often they succeed: new experiments, new thoughts, and new discoveries turn our thinking on its head, reverse a trend, expose the flaws in previous experiments, or poke holes in a celebrated scientist's thinking. The initial result is usually panic or denial, anger or derision—often all of the above. Eventually, though, after months, a year, a decade or a century, there is resigned acceptance of the new. Until, that is, someone dares to take in the view from the new edge of uncertainty. That novel perspective inevitably leads to further revisions and revolution. "Everything we know is only some kind of approximation," Richard Feynman once said. "Therefore, things must be learned only to be unlearned again or, more likely, to be corrected." This is where Galileo, Newton, Darwin, and Einstein did their work. All the revolutionaries have been challenged, accepted, then challenged again. As George Bernard Shaw put it, "All great truths begin as blasphemies."

Where science does have a problem is in the fact that our collective memories are so short. Once that resigned acceptance of a discovery comes, we forget that there was once such a kerfuffle. We act as if this truth were always with us, that it is self-evident. We forget the decades of persecution someone endured in order to shepherd us to the view we would now die to defend. And so we become comfortable—so comfortable that we will wantonly persecute the man or woman who comes to disturb our newfound peaceful state.



**MICHAEL BROOKS** holds a PhD in quantum physics and is the author of *Free Radicals* and *13 Things that Don't Make Sense*. He is a consultant at *New Scientist* and has a weekly column for *New Statesman*. His website is michaelbrooks.org.

**Eric Wargo**

# Trauma Displaced in Time:
# 9/11 and the Terrible Enjoyment of Psi

***"I felt a great disturbance in the force . . . as if millions of voices suddenly cried out in terror, and were suddenly silenced. I fear something terrible has happened."* —Obi-Wan Kenobi**

On the morning of September 11, 2001, my alarm awoke me around 6:30 A.M. and I did what I always try to do before dragging myself from bed: I rolled over, grabbed my notebook and pen, and jotted notes on whatever dream images I could recall from the night before. That morning I had dreamed about driving past a pair of identical "mosques"—distinctly low, one-story buildings, perfectly square in plan, with drab corduroy-like facades—on a street near where I grew up in Lakewood, Colorado. They were in exactly the site of an office building where, in real life (and about 30 years earlier) my father had briefly had his psychology practice, before moving his office to a nearby bank building.

I had never dreamed of "mosques" before, nor anything with Islamic overtones that I could recall. Islam was not on my radar. The only detail whose meaning I grasped at the time was the one-story-ness of the buildings (i.e., the opposite of tall buildings); my dreams have periodically featured "low buildings" as well as ruined towers that seemed, from years of psychoanalytically informed dream interpretation, to have a fairly standard "castration" symbolism—stereotypical Freudian stuff.[1] It was only some time later, possibly the next day, that I remembered these "mosques" and realized how their corduroy appearance matched the distinctive corrugated facade of the towers that came crashing down just a few hours after I recorded the dream.

I'm hardly the only person to have dreamed of something plausibly connected to 9/11 in the days and weeks leading up to the event. The amount of psychic material surrounding 9/11 is staggering. Physician Larry Dossey discusses several vivid examples in his book, *The Power of Premonitions*, and notes that the Rhine Center, which collects disaster premonitions, received more reports related to 9/11 than any other national disaster.[2] Several books have compiled these experiences or given testimonials of individuals' psychic connection to the events, and a quick Google search turns up pages and pages of similar material.

Added to the premonitions and dreams is an astonishing number of artworks and cultural ephemera that also seem uncannily prophetic in hindsight, as if the creators, like those

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thousands of dreamers, were unconsciously receiving a signal of the imminent trauma and wove this information into their creations. One example is issue #596 of *The Adventures of Superman*, released on September 12, 2001 (but obviously drawn and written sometime in the weeks immediately preceding the disaster), which shows the towers smoldering after being attacked in a superhero conflict. The issue was promptly recalled by the publisher, DC Comics, making it now something of a collectors item. Even more uncanny is a bronze 1999 sculpture *Tar Baby vs St. Sebastian* by Michael Richards, in which the artist depicts himself as one of the Tuskegee Airmen, standing very erect (and building-like), being pierced by numerous planes. Could it have been inspired by a premonitory dream or vision of his own death in his studio on the 92nd floor of Tower One on 9/11?

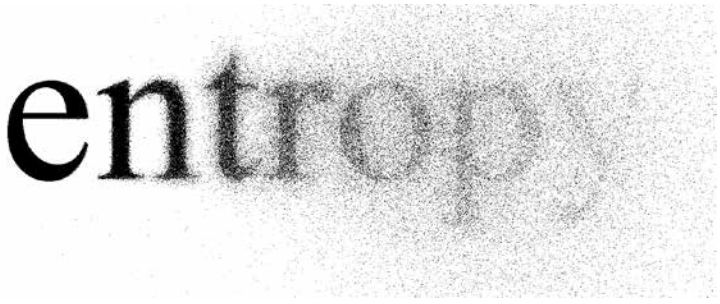
No amount of evidence will sway a hardened skeptic that these are more than coincidences and that the dreams are anything but examples of a kind of hindsight bias, memory's selection of past events to construct a meaningful (or perhaps "synchronistic") narrative. Yet the precognitive experiences of countless Americans find indirect support in the abundant experimental evidence for precognition, premonition, and precognitive dreaming that exists in the parapsychology literature.[3] Besides being abundant, the evidence is also remarkably consistent: Such events occur most often (or at least are noticed and reported most often) in emotionally salient contexts, and particularly around events like disasters and deaths. This consistency alone, as well as its resemblance to the principles of salience that govern noticing, perceiving, and remembering objects with our less controversial five senses, puts the real existence of psi beyond doubt for anyone who approaches the subject without materialist ideological blinders.

Unfortunately, the lack of a consensus theory for such phenomena has always dogged parapsychology and compounded its difficulty advancing its findings into the mainstream. It would be helpful to know exactly what the "force" is that carries psi information through time and space. Is it an "energy," or do "spooky" quantum mechanical phenomena manifest on a macro scale in a way we have yet to pinpoint? Or is it something else and we are just lacking the right metaphor? After briefly considering some recent thinking on psi in general, and premonitory phenomena in particular, I wish to make a psychoanalytic case that it could be *our own repressed enjoyment* that carries information to us from the future.

## Entropy + Meaning

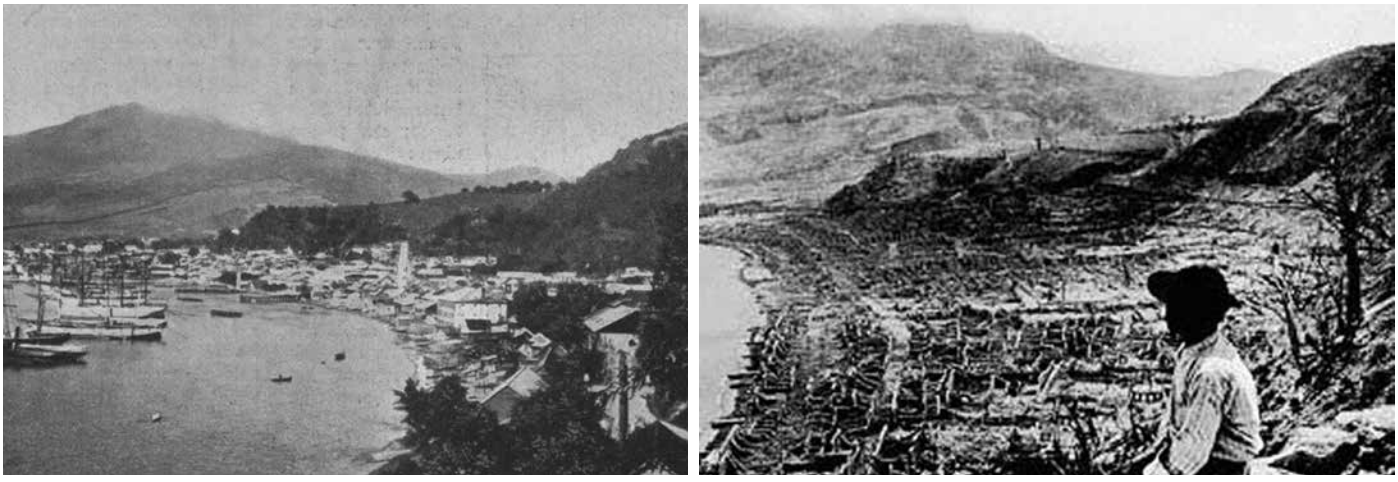
On the surface, the premonitions and portents of 9/11 fit well within one of the most coherent and compelling theories of psi articulated in recent years. Physicist Edwin May argues that psi centers on large changes in entropy, things moving rapidly from a state of order to a state of disorder.[4] This idea was based originally on May's experience with remote viewers at Stanford Research Institute and then with the Star Gate military remote viewing program. Remote viewers' accuracy was particularly high, May noted, when targets somehow involved high-energy discharges like nuclear tests or rocket launches. The idea that psi is linked to entropy gradients finds a certain theoretical rationale in classical physics, where time itself is often understood as tantamount to the inexorable increase in entropy dictated by the second law of thermodynamics. It thus makes sense that somehow rapid changes in entropy could be a big piece of the psi puzzle.

Clearly, 9/11 involved huge changes in entropy—massive explosions from the collisions of the planes with the towers and pentagon, and the collapse of the towers shortly thereafter, which generated enormous heat. Many premonitory experiences involved palpably realistic visions of smoke and fire. The massive, sudden loss of life, even on its own, also represents a kind of entropy.




May's theory cannot yet specify whether entropy gradients are intrinsic to the psi "signal" itself or only to the reception of that signal. The fact that humans are attuned to changes in entropy in our visual and auditory systems, and in our overall attentional scanning of the environment, suggests that entropy-orientation is not distinctive of psi versus other forms of gathering information: Humans are naturally interested in sudden, rapid motion, and especially fire and heat, as these signals carry important information related to our survival. It could be argued that our fascination with fire, combining both awe and fear, reflects its central role as perhaps the most decisive technology in our evolutionary development. Thus while some as-yet unknown property of higher-dimensional physics may specifically or preferentially carry entropy gradients (which amount to *concentrated time*, in some sense) to our psychic antennae, the prevalence of psi phenomena surrounding disasters (especially explosions and fires) could simply reflect a heightened attentional bias to entropic stimuli arriving through any channel.

And entropy alone may not be enough: It needs to be meaningful personally if it has much chance of being perceived via anomalous cognition. A recurring theme in the scientific study as well as folklore of psi phenomena is that strong and especially traumatic emotions like grief or fear are somehow the underlying energy "powering" such perception. This idea was articulated by Frederic W.H. Myers, founder of the Society for Psychical Research and coiner of the term *telepathy* (i.e., "distant feeling"). Jeffrey Kripal summarizes Myers' notion: "*strong emotion (pathos), particularly around trauma and death, is the most common catalyst of robust paranormal events.* Trauma, it seems, is what 'electrifies,' 'zaps,' or 'magnetizes,' and hence empowers the imagination. Trauma is the technology of telepathy."[5]



Angelo Heilprin

St. Pierre, Martinique, before (left) and after (right) the Mt. Pelée eruption of 1902

Trauma is not unrelated to entropy, of course: One might even say that trauma is personally meaningful entropy. If only as a metaphor, it makes intuitive sense that trauma, being "loud" as well as personal, could have a better chance of cutting through the noise of consciousness that ordinarily keeps psi information buried.

## Whose Trauma?

The question then becomes: Whose trauma? Did the entropic fear and terror of the WTC victims themselves "radiate" outward and backward in time, through some psychic ether, like the victims of Alderaan in Obi-Wan Kenobi's Jedi vision? Were a nation's premonitory dreams actual instances of "telepathic connection" to the thousands of human beings who were killed in the attacks?

We should not overlook the obvious fact that most Americans caught up in the events of 9/11 connected with it via the news media. The early 20th century aeronautical engineer and philosopher J.W. Dunne may have been the first to notice this crucial aspect of psi in his classic self-study, *An Experiment With Time*. Dunne observed that his own precognitive dreams about distant or future events did not tell him about the events themselves but about *his own learning of* those events in the news. It may often be difficult to sort those two possible psi avenues, yet there can be distinct "tracers": An error in reporting and/or an error in reading may be such a tracer, and in fact it was the latter that gave Dunne the essential tip-off.

In 1902, while camped with his infantry regiment in Southern Africa, Dunne dreamed vividly of being on a volcanic island about to erupt: Steam issued from vents in the ground, reminding him (in the dream) of the Krakatoa eruption, in which (he knew) seawater had seeped into the lava chamber, creating superheated steam that acted as a bomb to destroy that island. In the dream, Dunne also knew that 4,000 people living on the island were soon to perish. The dream scene changed (as they often do), and the next part was a maddening bureaucratic nightmare set on a neighboring island, in which he went from office to office, trying unsuccessfully to convince the French authorities of the peril so that the threatened 4,000 people could be rescued by boat. He notes that the "4,000" figure was repeated again and again.

When the next batch of mail arrived, including a copy of the *The Daily Telegraph*, Dunne read of the catastrophic eruption of Mont Pelée in the French island of Martinique in the Caribbean, with (it said) "probable loss of over 40,000 lives." Dunne mis-read the figure as "4,000" however, and even repeated that erroneous figure to people in conversation for a long time afterward. It was only 15 years later, when copying the news story, that he caught his mistake (i.e, that in his reading, and his dream, he was "out by a nought"). The final death toll was unrelated to either figure (around 30,000); thus, he wrote "it was clear that [the figure's] wrongness was likely to prove a matter just as important as its rightness. For *whence*, in the dream, had I got that idea of 4,000? Clearly it must have come into my mind *because of the newspaper paragraph*."[6] Dunne doesn't mention the possibility that he could have misread the newspaper paragraph because of his dream rather than vice versa, but his main point would hold in either case: Clearly he didn't dream of the remote eruption of Mont Pelée (indeed, it didn't actually erupt in his dream). He dreamed of *his own reading about* the eruption of Mont Pelée. It was a dream of a news experience.

There is a similar ambiguity as to the source of the information in clairvoyance or remote viewing. May and psychologist Sonali Bhatt Marwaha argue that it is impossible to rule out precognition in most psi phenomena; a remote viewer could actually be "seeing" the moment of feedback itself.[7] Whether as part of an experiment or afterward as an incidental sequela, there is usually some form of personal confirmation or verification of whether the subject scored a hit, and feedback is generally felt to be critical in remote viewing. If precognition is the main or only channel of information, it is specifically precognitive of *our own* future experiences.

What this suggests is that, if we want to know how so many people received advance psychic notice of the events of 9/11, we should credit the vast reach of the conventional news

media, and narrow our hunt for the psi component down to the level of the individual rather than searching for some larger "psychic ether" or collective unconscious that was massively disturbed by the event. This would fit well with (but add an interesting constraint to) Myers' "trauma" theory: Psi works specifically when events impact on us directly and emotionally; the origin of a psi signal may precisely be a scene in our own future timeline in which we directly experience something unsettling or exciting or, more likely, receive unsettling or exciting news. Even just the mild excitement of "scoring a hit" after a remote viewing session could count, but certainly, watching nonstop television coverage of a gripping news event would also.

This suggests to me that "trauma" may not precisely enough capture what it was that may have resonated back along thousands of individual timelines, feeding people's dreams and premonitions and artworks in the days and weeks prior to 9/11/2001.

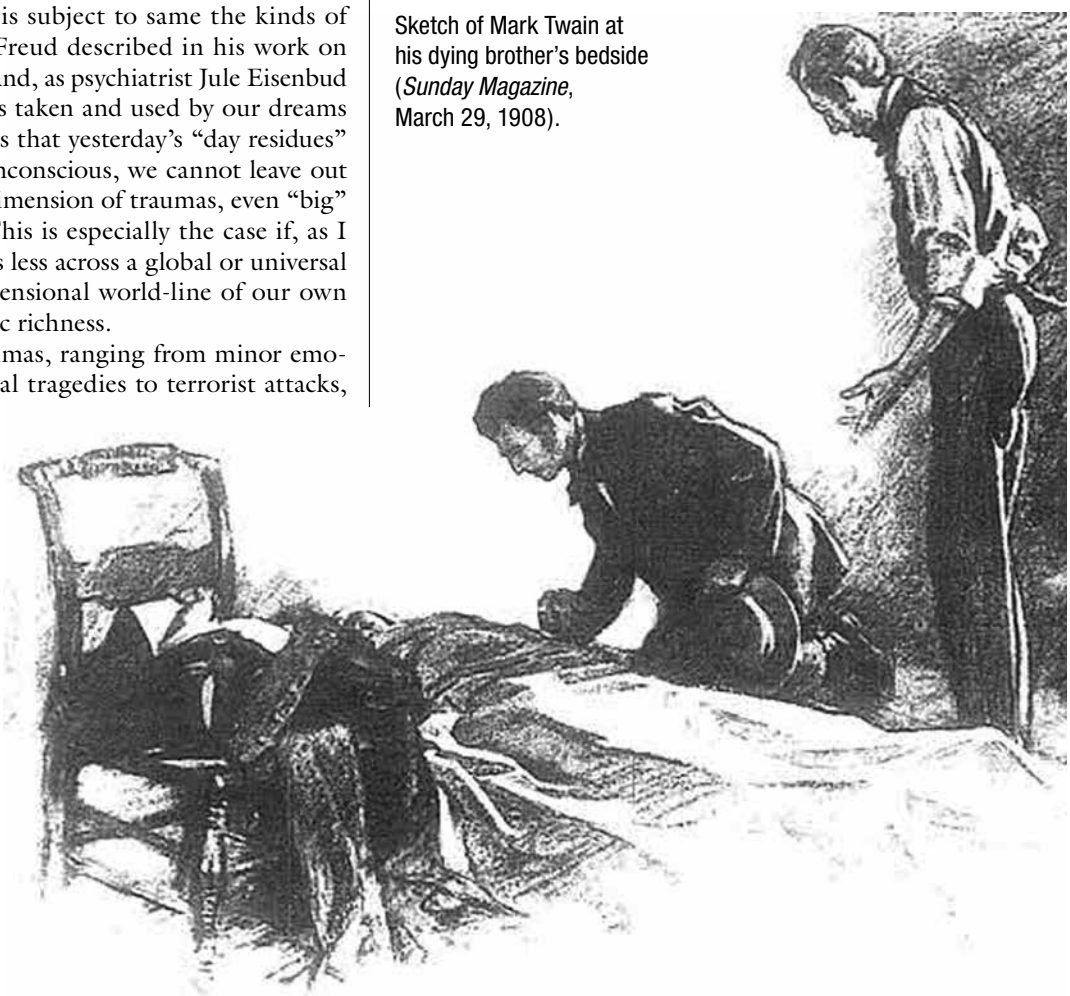
## Brotherly Love

Psi is largely an unconscious phenomenon, as James Carpenter argues in *First Sight*.[8] It is expressed unconsciously and its manifestations in consciousness are limited and often indirect or symbolically mediated. It is subject to same the kinds of contortions and distortions Freud described in his work on dreams and other symptoms, and, as psychiatrist Jule Eisenbud noted, precognitive material is taken and used by our dreams for some of the same purposes that yesterday's "day residues" are.[9] Given this link to the unconscious, we cannot leave out the personal psychoanalytic dimension of traumas, even "big" traumatic events like 9/11. This is especially the case if, as I suggest, the psi "force" moves less across a global or universal field than along the one-dimensional world-line of our own life, with all its psychodynamic richness.

People's reactions to traumas, ranging from minor emotional disturbances to personal tragedies to terrorist attacks, may be much more complex than simple grief, horror, or fear. They may include positive emotions that we suppress, including awe, excitement, and even a kind of unspeakable amoral pleasure and relief. There is a way in which we extract secret enjoyment even from tragedies; as a result, we may also experience feelings of guilt. This unconscious emotional richness may aid in understanding the interplay of trauma and psi.

To see how this works, we could consider a minor touchstone in the annals of precognitive dreaming, Mark Twain's precognitive dream about his brother Henry's death. In 1858, during a period when Twain and his brother were working together on a Mississippi River steamboat, Twain dreamed of his brother lying in a metal casket in a suit of his own clothes; on Henry's chest was a bouquet of white roses with a single red rose. A few weeks after this dream, Mark received news that Henry had been injured in a boiler explosion aboard the steamboat; he sat with his severely burned brother in the hospital, but Henry ended up dying of an overdose of morphine. Arriving at the morgue the next day, Twain was stunned to behold the exact scene he had seen in his dream, including the detail of the "borrowed" clothes and the exact bouquet being placed on Henry's chest by a volunteer nurse just as he was watching.

Dossey notes that, from the entropy gradient theory alone we might have expected the writer to dream of the boiler explosion itself; but "for Twain, who loved his brother deeply and blamed himself for his death for the rest of his life, it was probably Henry's death itself that was the most entropic, not the boiler that blew up."[10] But there may be much more to this story, and to Twain's feelings about his brother, than meets the eye.



Sketch of Mark Twain at his dying brother's bedside (*Sunday Magazine*, March 29, 1908).

In a reexamination of this case on his blog, religion scholar David Halperin finds abundant clues in Twain's fiction and autobiography that the author felt a good deal of natural sibling resentment toward his younger but more upstanding brother (who appears for instance as the "goody-goody snitch" 'Sid' in *Tom Sawyer*). From these clues, Halperin deduces that Clemens would have harbored unconscious murderous wishes for Henry, as siblings commonly do, and thus would probably have had many dreams, over the years, involving his death. It thus might not actually be too strange a coincidence for Twain, upon seeing his brother in a coffin, to recall having dreamed approximately that scene at some point and formed the notion that he had had a premonitory dream about it.[11]

It is significant that Twain never wrote his dream down and never told anybody about it until 1884—a quarter of a century after it occurred—and only wrote about it two decades after that, in 1906. This gave his memory ample time to sort and rearrange events into a more seamless narrative of psychic connection and brotherly love. One might also add that Twain's retrospective interpretation at that late date would have fit well with Myers' then-recent theories about telepathy and trauma.

That Twain would have had a lifetime of dreams about his brother dying and perhaps lying in coffins (and thus that, of that large sample, one of those dreams could easily have matched the real-life details somewhat closely) is conjecture that we can take or leave. But in doing due diligence in trying to eliminate precognition as an explanation, Halperin hits on a crucial dimension that should not be ignored even if we still accept Twain's dream as a bona fide case of psi: the fact that there would have been more to Twain's reaction to his brother's death than simple, straightforward grief.

It is a psychoanalytic commonplace that, in our unconscious, we are all murderers, and thus a part of the unconscious may frankly like the outcome of some "traumas." A particularly superstitious part of our unconscious may even feel like we actually caused the event—a possibility that, once the door is open to psychokinetic effects, makes rich fodder for psychoanalytic exploration, as Eisenbud discovered.[12] Also, besides granting a repressed wish, the death of another person contains by implication a small but important piece of positive news: *I survived, I'm still here, it didn't happen to me.* Rather than revel in such satisfactions, we deeply bury them, because such feelings do not make us very likeable to ourselves. Yet the brothers had been working on the boat together, so how can this sense of luck or fate favoring Twain over his brother not have crossed Twain's mind, leading to an unconscious sense of relief, as well as the lifelong sense of guilt Dossey mentioned?

If we shine a similar light on 9/11, it ought to be evident that, for most Americans who didn't live in Manhattan or Washington, D.C. or lose loved ones or friends in the attacks, the "trauma" was really a melange of complex and conflicting emotions that went beyond the obvious shock and horror of the destruction and the anxious feeling of national vulnerability. First of all, as philosopher Slavoj Žižek has noted, the event fell into a fantasy space that had been prepared for it by decades of disaster cinema as well as growing social antagonisms—this indeed was the genius of the attacks, to give Americans "what we wanted" on some unspeakable level.[13] There was a guilty enjoyment of the spectacle, not to mention a sense of awe at its audacity, and certainly for most Americans, a sense of relief that the terrorists hadn't targeted their particular place of work or that of their loved ones. It created a nation of grateful survivors.

Like other traumas, 9/11 was thus not a single, simple entropic shock to the psyche, but a maze of conflicting emotions, some of which could not be expressed or acknowledged, even to ourselves. We swept them under the rug. Could this splitting of our emotional current in response to an exciting, highly entropic event be a factor in premonitory and precognitive phenomena? Could our buried positive feelings be the signal carrier of psi information?

## Psi and *Jouissance*

In thinking about this possibility, I have taken inspiration from the psychoanalytic theory of Jacques Lacan, especially his concept of *jouissance* and his reframing of the psychoanalytic theory of symptoms. There is no equivalent word in English that captures the painful pleasure/pleasurable pain of *jouissance*—it is usually translated simply as "enjoyment," but in this context it needs to be understood that there is something deeply ambivalent or even repellent about this enjoyment; it is an enjoyment we do not want, a weird mix of excitement and horror. *Jouissance* is precisely the basis for the aesthetic mood of the *sublime* described by Kant, as well as the basis of our enjoyment of dramatic tragedy and cinematic horror. It is in this Lacanian sense that people "enjoyed" the news coverage of 9/11. Obsessively re-watching the planes crashing into the towers, dwelling endlessly on news images and photographs, re-living the destruction and our own reactions to it in our conversations was a "symptomatic" expression of this enjoyment.

Repetitious compulsions or symptoms had been understood by Freud as a way of "working through" or exorcising the pain of traumatic events and thoughts, but Lacan reversed this conception: Symptoms are really how we reorganize our life in such a way that we can continue to derive a secret enjoyment from something that, on a conscious level,


Miles Shugar

we want to be rid of. The contradiction between conscious aversion and unconscious enjoyment actually warps our symbolic-imaginary spacetime, causing the strange tail-chasing, repetitive "orbiting" behavior of all neuroses and obsessional behavior. What may appear to be a person's miserable or dreary compulsion conceals and also preserves or protects a vital and enlivening unconscious dimension, which it is the aim of psychoanalysis to help unbury.

Again, if precognition and premonition pertains to our own future learning of exciting information, then the majority of Americans' psi experiences about 9/11 may have been, like Dunne's volcano dream, premonitions of a *media event* and their own reaction to it, not premonitions of the disaster itself. (For example, my own 9/11 dream contained a connection to Islamic culture that would most likely have come from the interpretive chatter by news anchors and authorities, not from the entropic "real thing.") Could the psi signal have been the buried, "repressed" component of our reaction to the news coverage—essentially, our enjoyment of the exciting spectacle? Might it even be said that it was because those emotions were unacceptable and thus repressed that they "returned" *in our past*, as dreams and visions that would have made little sense at the time?

## The *Pre*-turn of the Repressed

Lacan was not interested in the paranormal, but central to his theory of the symptom is that not only its cure but also its *cause*—in the sense of its meaning—lie ahead of us in time: "what we see in the return of the repressed is the effaced signal of something which only takes on its value in the future, through its symbolic realization, its integration into the history of the subject."[14]

Žižek, Lacan's main interpreter for non-psychoanalytic American audiences, frequently invokes the typical science-fiction trope of a time traveler visiting himself in the past, to illustrate how some senseless, baffling situation (a symptom) is actually caused by the future rupture in our universe that will finally make sense of it. Careful to avoid any hint of paranormal thinking or the dreaded "New Age obscurantism," he is always cautious to specify that he is not referring to any literal time loop but to the retroactive reordering of the symbolic frame through which we perceive reality—which may indeed sometimes cause dreams and artworks to only appear prophetic, due to hindsight bias (his discussion of the Titanic disaster and its attendant prophecies in *The Sublime Object of Ideology* is a brilliant example of such a reading[15]). Yet there is much that is suggestive in his interpretation of Lacan's ideas for a theory of psi as a sort of *atemporal symptom formation* built around our enjoyment of salient events in our future.

The secret enjoyment at the dark heart of our symptoms belongs to the domain Lacan called the Real—basically, the unknown and unknowable. Its unknowability accounts for the way we have trouble situating it, either in ourselves (where we don't quite want it) or in others who are presumed to have stolen it from us—the basic fantasy at the root of racism, sexism, and homophobia. The farther away we imagine "our" lost enjoyment, the bigger it seems to be, helping explain why the most repressed people are often the most paranoid and xenophobic. (Enjoyment thus behaves a bit like the anamorphic "dolly zoom" special effect first used in Hitchcock's *Vertigo*, a camera trick making objects appear to shrink as they get nearer and grow as they get farther away.)

Because we bottle our enjoyment in a state of unknowability outside of consciousness and the symbolic order, it is similar, at least metaphorically, to the uncollapsed wave function in quantum physics.[16] As it is not yet subject to measure and differentiation and localization, its place cannot be specified. Indeed, Žižek suggests we should really think of everyone's enjoyment as the *same stuff*,[17] rather the way the singularity at the heart of different black holes is sometimes held to be the same no-place out of space and time. If we take this notion literally, then enjoyment would be a nonlocal medium, shared theoretically by everyone but, more immediately and tangibly, shared by ourselves in the past and future.

A dream that amazingly comes true, or a premonitory obsession that is verified, or a creative artistic inspiration that is uncannily mirrored in a real future event might all be thought of as "symptoms" in miniature: Irrational behaviors or thoughts or feelings that can only find their meaning or "answer" in some future trauma. Or put another way: Those premonitory symptoms reflect the way the unacceptable enjoyment of an event is sequestered in the past, a place it really can't be found—reminding me very much of the original *Star Trek* episode "All Our Yesterdays," about a world where a time machine has been used to scatter political undesirables into forgotten eras of the planet's remote history, where the exiles can have no voice and no meaning. Unlike Žižek, I propose some psychic version of this may literally be possible.

The unconscious famously has no sense of time, according to Freud, but what if it is really, literally, *outside* of time—perhaps because of some way in which our own brain states can resonate atemporally with each other via a quantum mechanical process, as Jon Taylor suggests?[18] Carl Jung wrote of course about a *collective* unconscious, but it could be more the case that the unconscious is shared mainly by our own future (and past) self, and that psi connects us to the wider world mainly by homing in on future confluent events in which our enjoyment visibly converges with that of other people—as in the excited sharing of a piece of news, or watching a gripping TV news story unfold with millions of other people.

I would suggest that the ground of being that many of today's anti-materialist philosophers (e.g., David Chalmers or Bernardo Kastrup) are calling "consciousness" is really none other than the extreme bliss of *jouissance*, the "only substance" whose existence Lacan acknowledged.[19] This links Lacan to Eastern spirituality, oddly enough: His concept is reminiscent of numerous mystical conceptions of a fundamental, vaguely sexual or orgasmic energy pervading the universe; some Buddhist writers have referred to the fundamental ground of being as an unconditioned "bliss-awareness," a term that appropriately captures the combined sense of aliveness and ecstasy without necessarily connoting any sense of *self*-recognition (which implicitly gets folded into many modern definitions of consciousness).

In other words, much of what today's philosophers of qualia mean by consciousness is really a matter of *feeling* and ultimately may have little to do with the self or ego. Yet by ignoring the psychoanalytic implications of consciousness, the term implies a denigration of the vast *un*conscious component of experience, where the real action is happening.

The term *jouissance* also captures the sensual and moral extremity of this irreducible dimension. Mystics report that in the most extreme ecstatic states, even horror, terror, and death may be experienced as almost unbearably blissful. The same is true of temporal lobe epilepsy: I remember hearing a sufferer describe how, in the throes of a seizure, even horrific events like the Holocaust were suffused with an awful feeling of "blissful rightness." The painful (or unbearable) dimension of *jouissance* reflects its necessary subjugation to the limiting horizon of the ego in order for us to function in the social world. In order to become moral beings, we learn early on to suppress and repress our amoral and excessive *jouissance*, subjecting it to the limiting rule of the pleasure principle.

Thus I think this oceanic bliss, our perpetually repressed source and ground that is beyond time as well as morality, may indeed be identical to our expanded or nonlocal awareness, and that we are specifically glimpsing it in some psi phenomena. It is a "force," out of space and time, within which information may ripple from the future to the past as readily as the reverse.

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## ENDNOTES

1 Delving into the dream years later, I realized that I associated the office building that had been replaced by mosques in this dream with my father's story of treating a transgender person undergoing a *suicidal* crisis—thus, further "emasculation" symbolism, as well as suicide, both central themes of the terror attacks.

2 Dossey, L. (2009), *The Power of Premonitions*, Dutton.

3 Dossey (2009) offers an excellent summary of the evidence; interested readers should also see Radin, D. (2006), *Entangled Minds*, Paraview Pocket Books.

4 May, E.C., and Depp, J.G. (2015), "Entropy and Precognition: The Physics Domain of the Multiphasic Model of Precognition," in May, E.C., and Marwaha, S.B., eds., *Extrasensory Perception*, Praeger.

5 Kripal, J.J., (2014), *Comparing Religions*, Wiley-Blackwell, p. 151.

6 Dunne, J.W. (1952), *An Experiment With Time*, Faber and Faber Limited, p. 44.

7 Marwaha, S.B., and May, E.C. (2015), "Rethinking Extrasensory Perception: Toward a Multiphasic Model of Precognition," *SAGE Open*, January-March 2015, doi: 10.1177/2158244015576056

8 Carpenter, J.C. (2012), *First Sight*, Rowman & Littlefield.

9 Eisenbud, J. (1983), *Parapsychology and the Unconscious*, North Atlantic Books. But for an alternative theory, see Wargo, E. (2015), "Feeding the Psi God: Precognitive Dreaming, Memory, and Ritual," *The Nightshirt*, http://thenightshirt.com/?p=2791

10 Dossey, L. (2009), *The Power of Premonitions*, Dutton, p. 118.

11 Halperin, D. (2014), "Prophetic Dreams—Mark Twain, Sigmund Freud, and 'Blackhawk' Comics (Part 3)," *David Halperin*, http://www.davidhalperin.net/prophetic-dreams-mark-twain-sigmund-freud-and-blackhawk-comics-part-3/

12 Eisenbud, J. (1982), *Paranormal Foreknowledge*, Human Sciences Press, Inc.

13 Žižek, S. (2002), *Welcome to the Desert of the Real*, Verso.

14 Lacan, J. (1988), *The Seminar of Jacques Lacan, Book I: Freud's Papers on Technique*, Norton.

15 Žižek argues that a calamity befalling the blithe rich elite was already part of the zeitgeist in 1912 and thus that the Titanic disaster filled a place already prepared for it in the social imaginary; it was thus easy to find discover apparent "prophecies" in hindsight (such as Morgan Robertson's eerily prescient 1898 sea disaster novel *Futility*), and it still haunts us because of its symbolic overdetermination. Today, gazing on the submerged wreckage, we see "the materialization of the terrifying, impossible jouissance . . . a kind of petrified forest of enjoyment." Žižek, S. (1989), *The Sublime Object of Ideology*, Verso.

16 Wargo, E. (2015), "What Lies Under the Skin?—Psi and the Physics of Indeterminacy," *The Nightshirt*, http://thenightshirt.com/?p=3198

17 Žižek, S. (1997), *The Plague of Fantasies*, Verso.

18 Taylor, J. (2007), "Memory and Precognition," *Journal of Scientific Exploration 21* (3), 553–571.

19 Lacan, J. (1999), *The Seminar of Jacques Lacan, Book XX: Encore 1972–1973*, Norton.

**Diane Hennacy Powell, MD**

# Autistics, Savants, and Psi: A Radical Theory of Mind

We can only infer the existence of a mind in someone else, but never prove it. We can't realize that people around us have minds until we realize we have one, and it isn't until sometime between the ages of three and five that we grasp that other's thoughts and beliefs about reality can differ from ours, and from the truth. This understanding is called a "theory of mind" (ToM). Some children don't engage in behaviors associated with any ToM, such as pointing to get someone's attention to look at something. They appear to be in a world of their own, which is why the Austrian American psychiatrist Leo Kanner named their condition autism, from "autos," the Greek word for "self." Their inner life remained inaccessible until fairly recently. Because early conclusions about autism were speculative, many were wrong.

Autism is a syndrome, rather than a disease, which means it is a cluster of symptoms without a unifying causative agent. This diagnosis didn't exist prior to World War II, but now it is difficult to find someone who hasn't heard of it. Autism was still relatively rare in 1987, when I spent six months at the Institute of Psychiatry in London with Sir Michael Rutter to evaluate children with autism and other developmental disorders. My first consult was an African family from a country in the British Commonwealth. They had come to us as a last resort because their three-and-a-half-year-old son didn't speak. They had tried everything else within their means, including a ceremony where a shaman inserted a peeping baby chick into the boy's mouth.

Not all mute children are autistic. This boy was, making it hard to deliver the news. There was a very grim view of autism at the time, and little we could offer in the way of treatment. Autistic children were thought to have little or no interest in people. They make little eye contact, and appear to be much more fascinated with objects and numbers than with their family. We now know they can form emotional bonds and that they avoid looking at us because we can be frighteningly unpredictable to them. We don't behave the way they do, and they can't intuit what we might do. The rest of us make these inferences all the time. Our ToM is a social lubricant they don't possess.

The inner world of autistics was a complete mystery until 1992, when Donna Williams published *Nobody Nowhere: The Extraordinary Autobiography of an Autistic Girl*. Donna had sent her diary to a psychiatrist, requesting a diagnosis. I heard her on NPR shortly after reading this book and stayed in my car to listen. What intrigued me the most was Donna's inability to answer the interviewer's questions, unless she typed her answers into her computer first. Then she could read them.

Since the 1990s, computers and the media have enabled many other high functioning autistics to dramatically change our understanding of autism, like Temple Grandin, best-selling author and professor of Animal Science at Colorado State University. Some of their stories are heartbreaking, because of how much these children are misunderstood. Others are inspirational, because of the power of unconditional love and perseverance.

Autism is independent of IQ. Autistics are frequently gifted, but an inability to communicate often causes them to be labeled "mentally retarded." Many people mistakenly assume autistics don't understand language, when some just aren't able to coordinate their facial muscles. Their frustration leads to many outbursts. They aren't aloof just because they don't look at you. In fact, they are often strongly empathic and withdraw because they can't handle the emotional and/or sensory overload.

## Savants

Savant syndrome is the presence of extraordinary cognitive skills without the usual building blocks underlying them. It is rare in the general population but occurs in approximately 10% of autistics. Oliver Sacks (1998) investigated two famous savants, John and Michael, who were identical autistic twins. They took great pleasure in tossing consecutive six digit prime numbers back and forth, without consciously deriving them, or even knowing how to do simple math. Sacks met them in the 1960s and joined their game by looking up tables of primes; he challenged them to go up to 8, 10, 12, and even 20 digits. He was only able to verify their accuracy up to 12 digits, the computing capacity at the time. There is no algorithm for calculating consecutive primes, so this would be remarkable even if they could do math. The twins said they saw the answers, which just appeared.

John and Michael could also tell you the day of the week for any date spanning 80,000 years, as well as the dates Easter would have fallen on. When a box of matches accidentally spilled onto the floor, Sacks (1998) heard them spontaneously say the number "111," in unison, the exact count. After repeatedly demonstrating their abilities in front of audiences, they were separated. Their obsession with each other and their number games interfered with the development of real life skills, so they were forced to live independently "for their own good." Their extraordinary abilities disappeared.

Some savant skills resemble "Extra Sensory Perception"

(ESP) so much as to be virtually indistinguishable from it. I wondered if ESP could be real, but there is such strong scientific opposition to it that extraordinary proof is required. This means finding "super-psychics." If such beings exist, I predicted they would probably be autistic. So far, it looks like I may be right.

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## Superpsychics

Bernard Rimland (1978) was a psychologist whose autistic son inspired him to study over 5,400 other autistic children, 119 of whom were savants. Four reportedly exhibited ESP, which Rimland listed as a savant skill. These children routinely predicted events in advance, especially concerning their caregivers, and provided specific information that only these caregivers could have known (Rimland, 1978, Treffert, 1989). These reports were anecdotal and would never be accepted as evidence, but they suggested I might be on the right track.

What had led me to look in such an unlikely place? As a neuroscientist, I look for correlations between states of consciousness, behaviors, and patterns of activity within the brain. If ESP is real, there should be a brain activity pattern associated with it. By finding this, one could predict who the "super-psychics" might be. Most psychics refuse to undergo brain imaging, so I approached the question from a different direction. ESP is reported to occur during the dream state in those who aren't otherwise psychic. There are also several psychiatric conditions in which ESP is reported frequently. I reviewed the vast literature on brain imaging studies of these states and conditions to see what they share in common. Their brain activity pattern shows a reverse pattern from our usual waking state in three distinct ways, all of which are pronounced in autism (Powell 2008):

- When we are awake, our analytical left cerebral hemisphere is usually dominant. In contrast, autism is associated with left hemisphere deficits, such as language aberrations. Also many of their savant skills are associated with the right hemisphere.

- Our brain's outermost layer, the cortex, maintains a top-down inhibition when we are awake. When autistics engage in cognitive tasks, their cortex is relatively quiet compared to neurotypicals, and their deeper brain structures are less inhibited.

- Our frontal lobes focus our attention, and guide our decision making and planning ahead. They are less connected to the rest of the brain in autistic children. Instead, their brains' dominant activity during tasks is posterior, especially involving the visual cortex.

Autistic savants have few perceptual biases, because they are less conceptual. They are very detail-oriented and can perceive subtle changes. If ESP entails separating signals from background noise, their high sensitivity would be an advantage. Savants can also exhibit high accuracy in their sensory perception, such as perfect pitch, and are not fooled by optical illusions. Autistics also aren't as limited by beliefs about what is possible, whereas the rest of us experience "change blindness" and see only what we expect to see.

After stating my hypothesis that savants might be the most likely to demonstrate ESP, I found many parents and clinicians in the autism community who believe their children are precognitive and/or clairvoyant, and even more say their children are telepathic. All but a few have remained silent for fear of being thought crazy, losing their professional credibility and job, and/or adding to the perception of autistic children as "strange."

These children aren't supposed to know that the rest of us have minds. Why would they have the ability, or even the desire to "read" our minds? Our concept of impaired theory of mind in autism might be based on false assumptions. Autistics form bonds with their primary caregivers, and their prolonged physical dependency makes them highly motivated to develop an alternative way to communicate their needs.

In January 2013, I evaluated several savants in India. One was a six-year-old boy with an encyclopedic knowledge of science, reportedly without having studied. Another was a girl who always knew exactly how many potato chips her father had reserved for later. One boy had accurately predicted several of his teachers' promotions and transfers. I also learned of a boy who may have saved a life. He had a history of touching people, but only if and where they had physical problems. One day he tapped a woman's breast. As a result, his psychiatrist recommended she get a mammogram, and it revealed breast cancer.

None of these Indian children could be used for formal experiments at the time. The most promising of them used facilitated communication (FC), involving physical touch to support the autistic child's movements while they type. That doesn't necessarily mean the typed words aren't their own. Some learn to type independently, demonstrating intact language skills. Skeptics regard all writings obtained from FC as tainted—wishful thinking on the part of parents who desperately want to communicate with a child—and are concerned about unconscious cueing.

## Haley

Months later psychiatrist Darold Treffert referred a nine-year-old mute autistic girl nicknamed Hayley for my evaluation. She is an American child who doesn't use FC. Hayley communicates by either pointing at letters and numbers on thick plastic stencils, or typing into a device called a "talker" that converts text to speech. Hayley's parents and therapists hadn't believed telepathy was real until Hayley exhibited it. They want to keep their identity hidden to protect Hayley from attention by the media. Her father is a medical doctor, which is why he immediately realized how significant this would be to science. Everything I learned about her indicates a very low likelihood of fraud.

Hayley's family initially thought she was a mathematical savant. She could give answers to increasingly complex problems involving several digit numbers, but she couldn't do simple math. One day she typed her answer in an exponential format for the first time. She hadn't been asked to, but the therapist's calculator had just accidentally been switched to displaying results in that notation. The shocked therapist asked how she knew. Hayley typed, "I see the numerators and denominators in your head."

Hayley then accurately answered questions for her therapist that she shouldn't have known the answers to, such as her landlord's name, "Helmut." Hayley also could type the exact words her therapist was thinking to describe pictures hidden from view. She even typed prose, word-for-word, including several foreign languages, but only when her therapist knows or reads it.

In August 2013, Hayley's family sent me three videos demonstrating telepathy. Filmed with a smartphone by her father in August 2012, they showed a young woman with a ponytail (Therapist A), looking at pictures, sentences, and numbers. A much younger girl in pigtails typed into a device with an electronic voice, giving answers exactly matching what the therapist had shown to the camera. These videos were intriguing but scientifically unacceptable. Experimental protocol requires randomized stimuli, so that answers can be compared to chance. Also, the therapist was in the same room as Hayley with no divider between them. Although there didn't appear to be any cueing, it cannot be ruled out because these videos don't show the entire room.

After learning about Hayley's "telepathy," her parents kept it a secret. They didn't know how people would react. They let a few teachers know because they saw potential for Hayley to fool them into thinking she was learning her subjects when, like the math, she might be using telepathy to give the answers.

A new therapist (B) was among those who were not told, but she began to have suspicions. Hayley's answers were always correct, and when they weren't, they were exact replicas of the therapist's mistakes. She jokingly tested Hayley's "telepathy" by asking her to translate "I love you" into German, a language the therapist knew and Hayley had never seen. Her jaw dropped when Hayley typed, "Ich liebe dich."

Hayley started practicing telepathy with therapists A and B, taking pride in her ability and squealing with glee when she heard the "talker" speak the correct answers. Hayley became so excited during testing, her therapists started touching her shoulder to calm her down. By 2013, Hayley had become psychologically dependent upon being touched during testing. This was a problem for research.

My experiments were delayed while Hayley was weaned from this contact. I also needed the therapists to work with a divider between Hayley and themselves. Autism makes any change challenging and, as anticipated, Hayley's behavior regressed. There was no way to predict what form it would take. It could have been anything from soiling her pants to refusing to enter the room. Instead, she stopped typing her answers. Therapists have to think on the fly and will try a variety of techniques to get a client back on track. When they returned to her initial method of communication, Hayley started participating again. She selected her answers from cut-out letters or numbers on stencils by pointing to them with a pencil in her right hand, then typing them with her left.

Another complication arose. Hayley was undergoing intensive speech therapy and began to vocalize some letters, numbers, and simple words. Rather than wait until Hayley and her therapists could work in separate rooms, my videographer Kent Romney and I scheduled testing for May 2014. Speech development has been reported to interfere with savant skills, and we couldn't take that chance. Nadia (Selfe, 1977) was an autistic savant who lost her remarkable artistic talent after acquiring language at age 12. Puberty might also diminish telepathic abilities and has according to parents of some autistics. Hayley started having menses at age 9.

Upon meeting Hayley, I saw that she exhibits all of the clinical signs of autism. She was diagnosed months before turning three, a typical age. Her social and language development were delayed and aberrant. She has repetitive behaviors, such as hand-flapping, and makes little eye contact with anyone, including family. When I asked her mother if she makes eye contact, she said, "occasionally she stares at my forehead.

She looks at it and then my eyes, up and down repeatedly, as though she expects me to read her mind."

Autistic children tend to be obsessive compulsive and throw tantrums when their routine is disrupted. Hayley is no exception. She can settle down and focus during sessions with therapists for an hour or more but becomes overstimulated very easily. At times she appears extremely frustrated or agitated, and screams or grunts. Sometimes she soothes herself by switching from flapping to tapping herself. She impulsively touches things, sometimes repeatedly. French fries are her favorite reward for good behavior. Hayley's parents also drive her around their neighborhood for up to an hour, on a daily basis, even during severe winters, because it calms her.

We only had three days for testing and didn't know what the first day would be like. We wanted sufficient documentation to counter accusations of fraud, so we placed cameras on the walls in front and behind their chairs, and three on the divider between them. All videos were time-stamped and synchronized. Novelty causes regression for autistics, and flashing lights, especially numbers, are highly stimulating. Hayley had to acclimate to five cameras, three microphones, and three digital atomic clocks.

The therapists prompt Hayley between answers, because autistics often fixate on a number or letter. Therapist A removes the stencil between answers as a prompt, whereas Therapist B uses verbal cues, such as "Go ahead." Hayley often vocalized letters and numbers as she selected them on the stencil, and could repeat, though with poor articulation, up to fifty monosyllabic words. It was unclear how much spoken language she understands, but she appears to comprehend simple commands without difficulty.

For the first session, I instructed Therapist A to not give Hayley feedback, which was a major deviation from their usual routine. I wanted to see if Hayley could work this way, because feedback adds confounding variables. Some autistic children are reportedly precognitive, and if that's so, she could theoretically access answers from her future, rather than from her therapist's mind.

I used an online random number generator (Random.org) on site to choose numbers between one and one billion for presentation, and to randomize the selection and order of presentation of other stimuli, including 100 distinct images from Hayley's playing cards, and 60 novel flash cards for learning sentences. This enabled us to assess potential differences between familiar and unfamiliar test stimuli.

Both therapists were instructed to write their own descriptions of the images on a clipboard out of Hayley's sight, and to display these verbal descriptions and corresponding images to their camera. Because the exact wording of these image descriptions remained unknown until after completion of each experiment, this data was blind to us until we analyzed the film.

During the first session, the random numbers were generated live, and sent by text to Therapist A's phone. The other test stimuli had been handed to her as a stack of cards at the beginning. The therapists were told to keep them face down until individually sliding them from the stack. They presented them to the camera and asked Hayley to "read my mind." All test stimuli were kept out of Hayley's view, and no visual or physical contact was permitted between Hayley and her therapist until after completing an answer.

**"I found many parents and clinicians in the autism community who believe their children are precognitive and/or clairvoyant, and even more say their children are telepathic."**

The lack of feedback appeared to confuse Hayley, especially when she was asked to continue after giving an answer. She hesitated, as though she knew it was wrong. Also, sending numbers by text resulted in time delays between test stimuli. This appeared to bore and frustrate Hayley. Nonetheless, she was 100% accurate on three of 20 images with descriptions containing up to nine letters, 60 to 100% accurate on three nonsense words, and 100% accurate on two random numbers: one eight digits, the other nine.

Our protocol was modified for the following day. Both therapists were instructed to tell Hayley when she was wrong, and to try again. Savants reportedly perform worse when problems are too easy, as though insulted or bored. So, rather than make our next session easier, I made it harder. Random numbers between one and one billion were used to create 12 equations (multiplication, addition, division, and cube roots) with solutions of up to 12 digits. These were determined and written with their equations on individual slips of paper, stacked face down, and given to the therapist at the beginning of the next session.

Data from day two with Therapist A included 100% accuracy on six of 12 equations with 15 to 19 digits, 100% accuracy on seven of 20 image descriptions containing up to six letters, and 81% to 100% accuracy on sentences of between 18 and 35 letters. Data from the session with Therapist B showed 100% accuracy on five out of 20 random numbers of up to six digits, and 100% accuracy on five of 12 image descriptions containing up to six letters. Some form of nonverbal communication seems to be occurring.

I interviewed each parent and therapist separately, using my skills as a forensic psychiatrist to look for evidence of deception; they all appeared sincere and their stories were consistent.

Could there be unconscious cueing, as with the famous horse Clever Hans? Hans picked up subtle body language cues from his unsuspecting trainer, guiding him as he tapped out answers with his hoof. The therapists were out of Hayley's sight, and her attention was focused on the stencil. Some form of subtle unconscious cueing could not be totally eliminated, because the therapist holding the stencil knew the answer. Our statistical analysis addressed this concern and found it highly unlikely. Hayley was quick in her responses, and confidently went straight to her answer, leaving little time for cueing. In less than 11 minutes she completed 12 equations containing 162 digits, only getting seven digits wrong, each corrected on the second try.

Hayley's most intriguing answers involved inadvertent errors by the therapist. On two occasions, Therapist A mistook the cube root symbol to mean "divide by three." Even though she was instructed to divide by three, Hayley gave the cube root both times, the answer on the therapist's slip of paper. As we thought, Hayley is not a mathematical savant.

After I presented these results at the Parapsychological Association's annual conference in 2014, Rupert Sheldrake asked if my research involved children similar to a boy described in a paper (Recordon et al 1968) that had been instrumental in Rupert's decision to leave a successful career in biology at Cambridge to study telepathy. It was co-authored by Sir Rudolph Peters, a professor he admired, and describes a savant, but not one who is autistic. The boy was diagnosed with spastic diplegia, congenital cataracts, and mental retardation. After his cataract operation, he had very little vision. Blind children can develop savant skills when their visual cortex is preserved. Rather than go unused, it is rewired for a new purpose.

E.G. Recordon noticed during ophthalmological examinations that the boy could guess the letters on an eye chart accurately, but only if his mother was seeing the answers. Recordon told Sir Peters, and their team conducted experiments using random letters and numbers with the boy and his mother in contact by phone and separated by up to more than six miles. The boy's answers were correct approximately one third of the time, on the first try, with both letters and numbers, far exceeding chance. In one trial, 139 numbers took 10 minutes and 45 seconds and 28 letters took four minutes. The researchers concluded this was telepathy, not cueing.

## Ilga

Recordon's paper referenced telepathy research done in the 1930s with children who would be diagnosed as autistic savants today, but autism didn't exist as a diagnosis until 1938. Ilga K. was a 10-year-old Latvian girl with an IQ of 48 (Bender, 1938). At age eight, Ilga spoke at the level of a two year-old. She struggled to read simple text, but when another person silently read beside her, she could verbalize the written content, including foreign languages, in her mother's pronunciation.

Like Hayley, Ilga responded best when given verbal prompts of encouragement such as "Ilga, think!" She was investigated by Ferdinand von Neureiter, director of the Institute of Forensic Medicine of the University of Riga, a commission from the Psychological Institute of Bonn University, and a commission led by Paul Dahle of the Institute of Psychology of the University of Riga. They made dictaphone and film recordings, because of concern that auditory cues could be hidden in her mother's verbal prompts.

Some potential auditory cueing by the mother was noted, but Ilga often knew the correct answer without any cueing detected, even under high amplification. When her mother's prompts were recorded to create an "artificial mother," replacing her mother's live voice as prompts, Ilga still answered accurately. She demonstrated telepathy in an experiment done with her six-year-old brother, and with von Neureiter, who wrote, "I happened to glance at the word 'Bruhte'… At the same moment the child in the next room cried: 'Bruhte.'" (Bender, 1938)

## Bo

Former head of the Department of Psychology at Kent State, Raleigh Drake, (1938) investigated "Bo," an 11-year-old boy whose brain injury at birth left him with an IQ of 55. Bo's mother said he "would spontaneously tell her words or numbers which she had not overtly expressed." Like Hayley, Bo initially was "thought to be a lightning calculator because no matter what the row of figures given he would immediately give the answer, provided it was in his mother's mind, but he could do absolutely nothing if left alone."

Drake's description of Bo is very consistent with autism: "When he was to leave home for a few days to stay in my home he showed no emotion at leaving his parents or any homesickness or anxiety to return. Even at the moment of seeing his parents after an absence of two days the meeting was no more than casual on his part. He is an active observer of the activities of other boys, usually younger than he, but he makes little effort to participate cooperatively in their games… His comments are, however, frequently of the perseverative type with verbal repetition and fixation of ideas constantly recurring."

Visual cues were eliminated by blindfolding and/or placing Bo on the other side of the room from his mother with his back towards her. Drake tested them with ESP cards. Each run had 25 answers. Once Bo scored an average of 84 percent on each of 14 runs. Drake did not observe any evidence of auditory cueing, and Bo's performance actually improved when blindfolded.

## Ramses

Earlier this year I started research with Ramses, a 5-year-old boy with mild autism who could read seven languages out loud by the time he was two, and has solved algebra problems since age four. He is reportedly telepathic with his mother, a brilliant surrealist artist who claims to have been telepathic with him even before his birth. So far, I have tested him briefly on five occasions. He is too young to focus for sessions longer than five minutes but speaks the answers instead of typing them. His overall accuracy has been above 90%. There will be more to explore as he matures.

Some autistic children appear to have the ability to access

the thoughts of others. How can we reconcile this data with an impaired Theory of Mind? Our representation of others' beliefs, and ToM, are believed to involve our temporoparietal junctions (TPJ), where our temporal and parietal lobes join (Samson et al, 2004, Lombardo et al 2011). Our left TPJ is usually larger than the right, and a lesion to the left TPJ is associated with language deficits. In autism, the right TPJ is often as large or larger than on the left, and may play a role in telepathy (Powell, 2012).

## Challenge to ToM

Research by Simon Baron-Cohen (1985, 1989), Director of the Autism Research Centre at the University of Cambridge, forms the basis for regarding autistics as having an impaired ToM. Baron-Cohen used a common test for ToM called the "Sally-Anne" task, in which one person knows something the other doesn't. Realizing that another person can believe something false is an important milestone in children's development of ToM. For example, if Sally hid Anne's ball inside a box when Anne wasn't in the room to see it, a child less than three thinks Anne will look for it in the box. A child over five will predict that Anne will look where the ball had been, not where it currently is. Autistic children of many ages think Anne "knows" the ball is in the box. Why?

I have a radical suggestion. What if they are assuming Sally and Anne are telepathic? We each begin life in shared consciousness with our mother. We first become conscious while in her body, gradually understanding after birth that we are separate beings. We typically don't remember our first year, when

Ramses with Diane Hennacy Powell, holding a sheet of paper with letters he wrote in foreign alphabets.

we may all experience shared consciousness. Perhaps autistics do, or can still access another person's thoughts. They would regard shared consciousness as normal. Of course Anne would know where the ball is, if Sally does.

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**Peter Sturrock**

# A Multi-Sensory Clairvoyant

Clairvoyance is the purported ability of a person to see an event or scene under conditions that make it impossible to see it by normal means. The following experiment was carried out at the Swiss Institute of Noetic Sciences in Geneva in 2013, here summarized with the kind permission of The Odier Foundation for Psychophysics.*

In order to guarantee the validity of the experiment, the experimental team enlisted the cooperation of Marco Breitenmoser, the bailiff (a sworn judicial officer) of the Republic and Canton of Geneva. Breitenmoser insisted on a strict distribution of tasks for the preparation and performance of the tests between the members of the research team: Marcel Odier, Monique Odier, and Sylvie Dethiollaz. In preparation for the experiment, Sylvie Dethiollaz prepared 100 sets of four different pictures as 15x21 cm prints. She placed each set in an A4 cardboard folder with four opaque yellow A5 envelopes and the four corresponding pictures as 10x15 prints enclosed in a white A6 envelope. She gave the 100 A4 cardboard folders to Marcel Odier, who inserted each 15x21 print face down into a yellow A5 envelope before closing it. On each picture Dethiollaz had inscribed the number of the set and a description of up to three words. The 100 folders were delivered to the bailiff, who stored them in his office and never opened the envelopes.

Monique Odier is a former professor of natural sciences. Marcel Odier has a PhD in science (mathematics and physics) and is a former Senior Partner of the Lombard Odier private bank in Geneva, Switzerland. Monique and Marcel Odier are Founders and Chairpersons of the Odier Foundation for Psychophysics.

Before each test day, Breitenmoser selected at random 20 of the 100 folders. For each folder, he selected the "target envelope" by drawing lots among the four closed, opaque yellow A5 envelopes. He affixed his seal, signed across the flap, then sealed the envelope with a blue sealing strip (Scotch security strip), which would show any attempt to open it. He then placed the target envelope, together with the corresponding white A6 envelope containing the four 10x15 prints, in a new white envelope that he numbered himself.

On the morning of a test day, Breitenmoser gave the operators (Monique Odier and Sylvie Dethiollaz) the 20 numbered white envelopes. Breitenmoser was authorized to go to the location of the experiment at any time for a spot check of the activities.

Each test proceeded as follows: One of the team took in order one target envelope prepared by Breitenmoser and placed it on a table in front of the percipient, who wishes to remain anonymous.

The percipient concentrated and placed his hands slightly above the envelope without touching it. After concentrating for several minutes, he asked for and opened the small white A6 envelope with the four small prints for that test. He then wrote on the unopened target envelope the number and title of the picture he thought he had identified. All the operators then signed and dated the target envelope. The target envelope and the four small pictures were then placed back in the envelope prepared by the bailiff. These 20 envelopes were then returned that evening to the bailiff. Breitenmoser's role was to check the integrity of the A5 envelopes, to open those envelopes, and then determine whether each written response was correct or incorrect.

After 76 tests had been carried out, Breitenmoser decided to review the results of the first 20 trials. When he found that 17 of the 20 were correct, he became extremely suspicious. He again checked the integrity of the target envelopes (with a magnifying glass), but found no anomaly. He immediately contacted the lead scientist (Marcel Odier). They decided that they would immediately proceed to analyze the results of all 76 trials. They found that 61 were correct. Since this was an extremely surprising result, the bailiff decided to attend the subsequent trials to be sure that cheating was not possible. At no time did the bailiff detect any cheating or attempts to break the seals. His skepticism vanished as he watched, with amazement, the speed at which the percipient gave his responses.

These results are remarkable, but the percipient's account of how he achieved these results is even more remarkable. During the 8th test, the percipient told the operators that he heard a voice say, "It's not going quickly enough!" From that point on, the percipient began to "see" in his mind pictures that, every time, had an obvious connection with one of the pictures in the set for that trial. Then, from the 20th trial on,

he somehow received aural information that, in most instances, perfectly matched one of the pictures in the set. To guard against his inventing the description after seeing the targets, the operators asked the percipient to write down what he was hearing *before* he examined the set of target pictures.

For about twenty trials, the percipient heard songs or snatches of music. For instance, for Trial No. 20, the percipient heard the song *Le soleil a rendez-vous avec la lune (the sun has a meeting with the moon)*, sung by Charles Trenet. One of the four pictures of the set was that of a solar eclipse. The percipient of course chose that picture—correctly. For Trial No. 21, he heard Edith Piaf sing *La foule (the crowd)*, as if from an old vinyl record. One of the pictures of the set was a photo of Edith Piaf, leading to another correct selection.

Then, even more remarkably, the percipient began to hear rhyming riddles (in French, of course). For instance, for Trial No. 37, the percipient transcribed what he heard as

*Elle n'est pas des cieux,*
*Et pourtant elle vit*
*Au fond de la mer,*
*Son paradis,*
*Et pourtant vous en faites un enfer.*

[In English:
*It is not of the heavens,*
*And nevertheless it lives*
*At the bottom of the sea,*
*Its paradise,*
*And you make it into a hell!*]

One of the target pictures was of a starfish, which the percipient correctly selected.

For Trial No. 65, the percipient transcribed,

*Il tourne au souffle incertain,*
*Tirant l'eau ou broyant le grain,*
*Histoire melee du vent et de l'humain,*
*Il est d'hier et de demain,*
*L'outil qui remplace la main.*

*[It turns in a variable wind,*
*Drawing water or grinding grain,*
*A mixed history of wind and mankind,*
*It belongs to both yesterday and tomorrow,*
*The tool that replaces the hand.]*

The percipient had no trouble in selecting a picture of a windmill.

For Trial No. 67,
*Dans la nuit, elle ne voit rien,*
*Le son la guide vers son festin,*
*Diabolisee ou adoree,*
*Dans les airs crie sa liberte!*

*[In the night, it sees nothing.*
*Sound guides it towards its feast.*
*Demonized or adored,*
*It cries out its liberty through the air!]*

One of the target pictures was that of a bat!

The team presented the results of the experiments to the Board of the Foundation, which included (in addition to Marcel and Monique Odier) Jacques Neirynck, National Councilor and Honorary Professor of the Swiss Federal Institute of Technology in Lausanne, and Dr. Claudia Mazzocato, a physician in the Faculty of Biology and Medicine in Lausanne. Neirynck and Mazzocato were incredulous and requested 20 more trials, which they wished to attend. During these extra trials, Neirynck and Mazzocato sat opposite the percipient to satisfy themselves that he had no opportunity to cheat, and they watched as he wrote down what he claimed to be hearing before reviewing the comparison pictures. The percipient identified ten out of the twenty trials correctly.

Marcel Odier has pointed out that, from a strictly logical standpoint, one can never assert that the results were not due to chance. However, science deals with probabilities, and one can assert that the probability that the results are due to chance appears to be vanishingly small. Neirynck and Mazzocato wrote, "To this day we can offer no rational explanation for the phenomenon that we witnessed."

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***** *A Key Clairvoyance Experiment*, Report of The Odier Foundation for Psychophysics and The Swiss Institute of Noetic Sciences (Geneva, Switzerland, 2013). Foundation Board: Marcel Odier, PhD (Mathematics, Physics), *Chairperson*; Monique Odier, former professor (natural sciences), *Vice-Chairperson*; Jacques Neirynck, National Councillor, Honorary Professor of the Swiss Federal Institute of Technology in Lausanne (EPFL); Dr. Claudia Mazzocato, physician, CHUV, and Faculty of Biology and Medicine (FBM), Lausanne. Executive Director: Sylvie Dethiollaz, PhD in molecular biology.

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