

Dean Radin

Dean Radin is an American scientist known for innovative experiments in the study of consciousness and psi phenomena. He is the author or co-author of over 250 technical and popular articles, four dozen book chapters, and four accessible books: [The Conscious Universe](#) (1997), [Entangled Minds](#) (2006), [Supernormal](#) (2013) and [Real Magic](#) (2018). His work has attracted criticism from skeptics of psi but has also found support in the scientific community.

Radin is currently chief scientist at the [Institute of Noetic Sciences](#) and Associated Distinguished Professor at the [California Institute of Integral Studies](#). He has given over 500 interviews and presentations for academic, popular, business and government venues around the world, and his books have been translated into 14 foreign languages. Videos of his presentations on YouTube have received more than a million views.

Life and Career

Early Life

Dean Radin was born on 29 February 1952 to Jerome and Hilda Radin. His father was a commercial artist, sculptor and fine artist, who also earned five advanced degrees in English literature, philosophy and law. His mother was one of the women named 'Rosie the Riveters', who worked in factories during WWII: she was a welder and built the metal frame for gliders.

Radin trained as a classical violinist, and played professionally for five years. He graduated from the [University of Massachusetts](#) (Amherst) with a degree in electrical engineering, magna cum laude with senior honors in physics and a masters in electrical engineering focusing on cybernetics and control systems from the [University of Illinois](#), Urbana-Champaign (UIUC). In 1979 he was awarded a PhD in psychology, also from UIUC. For his dissertation he developed and tested what he claims may have been the first computer-based, artificial-intelligence enhanced, touch typing training system.¹

He then worked at AT&T Bell Laboratories (1979-1986) (now [Bell Labs](#)) and later at GTE Laboratories (1990-1993) (now [Verizon](#)) on advanced telecommunications R&D. At Bell Labs he helped design human interfaces for network operations centers in the US and Japan, and he developed rapid prototyping systems for complex human-computer interfaces (before there were personal computers). At GTE he studied ways to enhance brainstorming and creativity in industry.

Beginnings in Parapsychology

During his time at Bell Labs, Radin also started to publish some of his psi experiments, then to present his work at the annual meetings of the [Parapsychological Association](#) and the [Society for Scientific Exploration](#). He eventually gained appointments at [Princeton University](#), the [University of](#)

[Edinburgh](#), the [University of Nevada](#), [Interval Research Corporation](#), and [SRI International](#), which at the time was conducting classified research on psychic phenomena for the US government (see [Remote Viewing](#)).

In 2001, he joined the staff at the Institute of Noetic Sciences (IONS). He has also held a volunteer faculty position in the psychology department at [Sonoma State University](#), served on dissertation committees at [Saybrook University](#) and at the California Institute of Integral Studies, where he is currently Distinguished Professor of Transpersonal and Integral Psychology.

He served as president of the Parapsychological Association in 1988, 1993, 1998, and 2005. He has been co-editor-in-chief of the journal *Explore: The Journal of Science and Healing* since 2009.

He is author or co-author of over 250 scientific, technical, and popular articles, three dozen book chapters, and four popular books including the award-winning and bestselling *The Conscious Universe* (1997), *Entangled Minds* (2006), *Supernormal* (2013), which won a 2014 [Silver Nautilus Book Award](#), and the forthcoming *Real Magic* (2018). These books have been translated into fourteen foreign languages.

Radin's over eighty scientific articles have appeared in peer-reviewed journals ranging from *Foundations of Physics* and *Physics Essays* to *Psychological Bulletin* and *Journal of Consciousness Studies*; he was featured in a [New York Times Magazine article](#); and he has appeared on dozens of television shows ranging from the BBC's *Horizon* to PBS's *Closer to Truth*. He has given over 400 interviews and talks, including invited presentations at Harvard, Stanford, Cambridge, Princeton, and the Sorbonne, for industries including [Google](#) and [Johnson & Johnson](#), for US government organizations including the US Navy, the Naval Postgraduate School, and [DARPA](#), and for government and business organizations in India, Malaysia, and Australia.²

Beliefs and Motivations

Radin was raised agnostically Jewish and holds no religious beliefs. He maintains a daily meditation practice for its health benefits.

As a child, Radin writes, he felt 'overriding fascination about the outer limits of inner space – the depths and capacities of the human mind'.³ He read widely in mythology, eastern and western psychology, and science fiction, and in his early teens, as his interests in science and engineering continued to grow, he started to carry out experiments on hypnosis and psi phenomena. He writes:

My interest in psi was originally motivated out of a child's intuitive sense that the mind is far more mysterious and powerful than we know. Through education and experience I've also come to appreciate that these experiences are also responsible for most of the greatest inventions, artistic and scientific achievements, creative insights, and religious epiphanies throughout history.

Understanding this realm of human experience thus offers more than mere academic interest – it touches upon the very best that the human intellect and

spirit have had to offer. I discovered while working on these topics that I enjoy the challenge of exploring the frontiers of science, and that I am comfortable tolerating the ambiguity of not knowing the 'right answer', which is a constant companion at the frontier.[4](#)

Radin acknowledges that most people who claim to have unfailingly accurate psychic abilities are probably delusional, mentally ill or fraudulent. But he has become convinced by the accumulation of empirical evidence – gathered by himself and by other qualified scientists, under well-controlled conditions and published in peer-reviewed scientific journals – that some such claims are genuine, and that there are important aspects of the prevailing scientific worldview that are seriously incomplete.[5](#)

Parapsychological Research

Radin has carried out experiments, alone and in collaboration with other scientists, studying mind-matter interaction (using optical systems and random event generators), distant healing, telepathy, [presentiment](#), and mediumship. He has also taken part in 'field consciousness' research that suggests that the mental response of millions of people to dramatic world events can influence the environment.

Presentiment

Anecdotal and experimental evidence exists to support the idea of precognition, that humans may in certain circumstances – notably dreams and trance states – access knowledge of future events. From this comes the idea of [presentiment](#), that we constantly (and unconsciously) scan our future and prepare to respond to it. In 1997 Radin began to investigate this, adapting a commonly used method in psychology experiments in which a subject is exposed to an external stimulus – such as an image flashed on a computer screen – and any resulting unconscious arousal of their nervous system is identified by measuring changes in skin conductance.

Typically, such arousal is observed as a result of exposure to emotive images but not to calm ones. Radin hypothesized that if presentiment occurs, arousal will occur seconds *before* the subject is exposed to the image. He briefly showed participants photographs, selected by a random process, that were variously emotive (erotic or violent) or calm (landscapes, nature scenes). In an initial experiment, the presentiment effect was observed with odds against chance of 500:1. The combined results of four experiments were 125,000 to one in favour of a genuine presentiment effect.[6](#)

As is now generally always the case in parapsychology the experiments were double-blind, and possible loopholes were identified and controlled for, including sensory or statistical cues about the upcoming targets, data collection errors, measurement or analytical artifacts, selective reporting biases, participant or experimenter fraud and a variety of conscious or unconscious anticipatory strategies.

The experiments were first successfully replicated by psychologist Dick Bierman at the [University of Amsterdam](#) and then by many others, using a variety of physiological measures such as heart rate and pupil dilation.⁷ (See [Presentiment](#) for full list).

Optical Physics

Since 2008, Radin has designed and carried out experiments to test the idea that mental concentration can influence physical systems. These studies explored the role of consciousness in some interpretations of quantum mechanics. Another motivation for these studies is an interest in the nature of intuition. Does the information in intuitive hunches come from an unmediated or direct means of acquiring knowledge, and if so, could that acquisition process be detected in a suitably devised optical interference experiment?⁸

In a 2012 study, participants were invited to direct their awareness toward or away from a double-slit optical system (sealed and located at a distance), and were given real-time feedback based on the amount of wave-like behaviour measured in the interference pattern.⁹ Radin postulated that if focused attention could gain information about the path of the photons, then the interference pattern should be modified when attention was directed toward the double slit, as compared to when it was directed away. A small but statistically highly significant change was found in the relative intensities of light and dark bands. Data contributed by 137 participants in six experiments, in a total of 250 test sessions, showed an averaged spectral ratio decrease, as predicted ($z = -4.36$, $p = 6 \times 10^{-6}$).

A further 250 sessions were conducted as controls without observers present, testing for potential artefacts in the hardware, software and analytical procedures, but none were identified. Variables such as temperature were also tested, and no spurious influences were identified. Factors associated with consciousness such as meditation experience, electrocortical markers of focused attention, and psychological factors including openness and absorption, significantly correlated in predicted ways with perturbations in the double-slit interference pattern.

A follow up experiment (2013–14) was conducted online, with around 1,500 people from 77 countries contributing three thousand test sessions. Nearly twice as many sessions were run as controls by a computer programmed to simulate human participants.¹⁰ The results showed that with human observers the fringe visibility at the center of the interference pattern deviated from a null effect by 5.72 sigma ($p = 1.05 \times 10^{-8}$), with the direction of the deviation conforming to the observers' intentions. The same analysis applied to the control data resulted in an overall deviation of -0.17 sigma.

Advanced Meta-Experimental Protocol (AMP)

The Advanced Meta-Experimental Protocol (AMP) was developed by Jan Walleczek at [Phenoscience Laboratories](#) (a research program investigating the links between physics, biology, and consciousness research) with the aim of introducing robust controls into scientific testing. A particular focus of the AMP is testing for false

positives – a result that indicates the presence of an effect that does not actually exist.

Between February 2012 and February 2013, Radin and colleagues at the Institute of Noetic Sciences ran 25 participants – who had either demonstrated previous PK ability in the lab or practised a meditative discipline – through 250 sessions directing their attention towards (PK influence trials) or away from (control trials) a double-slit optical system – an established set up in Radin’s experiments¹¹. In accordance with Walleczek’s Advanced Meta-Experimental Protocol, sham trials, in which participants were replaced by a lamp with a 60 watt bulb (to simulate the influence of human body temperature) were also run. Data were decrypted by Walleczek (who held the encryption keys, preventing data tampering by Radin or his colleagues) in 2013.

Walleczek eventually published his version of the study in 2019.¹² In this publication, Walleczek draws parallels with the OPERA collaboration¹³ that claimed to find evidence of faster-than-light (superluminal) neutrinos, over several years of experimentation. The effects were small (0.0001%) but highly significant (6 sigma, 10×10^{-9}); however, careful analysis by other groups found them to be the result of tiny biases in the experimental set-up. Returning to the double-slit (DS) work, the decrypted results showed a non-significant effect of intention on the behaviour of the optical DS system. Walleczek then analysed the sham trial data which found statistically significant evidence of false positives ($p = 0.021$). He concluded that the result failed to replicate the Radin DS work under stringent conditions and furthermore produced evidence that cast a shadow over the entire DS project.

In a commentary published in *Frontiers in Psychology*, Radin and his colleagues addressed the negative conclusions in Walleczek’s report. ¹⁴ They point out that in fact only one out of eight comparisons in the sham experiment was statistically significant. After correcting for multiple testing, this result is quite likely at 34%, providing no evidence for the production of false positives in the DS method. Furthermore, Jessica Utts, a former president of the American Statistical Association, applied a False Discovery Rate algorithm to Walleczek’s p-values and found that none of the eight tests were significant. Radin also draws attention to 11 statistically significant replications of his DS work that did not require adjustment for multiple comparisons. Finally, Radin explains the failure to find a main effect of intention as possibly due to the randomization protocol that sometimes produced strings of influence trials bunched together, requiring long periods of concentration, which might have been a challenge for some of the participants.

Further Analyses

In a paper published in 2021 in *Physics Essays*, Radin and his DS team report exploratory hypotheses based on the 2012 experimental results.¹⁵

Performance consistency: This hypothesis predicted that talented participants would do well across their sessions, whereas the less talented participants would continue to do poorly. Comparing the first session and last session data for the top 5 participants revealed a continuation of high scoring in the last session ($p =$

0.0006). The worst performing 5 participants continued to perform just as poorly in their last sessions. This hypothesis was confirmed.

Spectral Metric and Fringe Visibility: Although original directional hypothesis failed to find an effect of intention, two other analyses that are more sensitive to the DS interference pattern produced strong evidence with the spectral metric measure ($p = 0.0003$); seven of the 22 Fringe Visibility measures reached beyond 0.01 significance level. These measures are more sensitive to changes in the interference pattern which explains the high levels of significance.

Photon Polarisation

In a 2019 preprint Radin and Loren Carpenter describe two experiments investigating the effects of intention on another optical physics system; photon polarization.¹⁶ A laser beam was passed through horizontal and vertical polarizers while participants were asked to focus their intention for the beam's polarization to rotate. Against prediction, three exploratory experiments showed *decreasing* illumination with intention ($p = 0.05$). This motivated a reanalysis of data from previously published experiments involving mental influence of beams of light but designed for other purposes. The analyses revealed a reduction in light intensity during periods of focused attention. These data appear to indicate that conscious intention attenuates the illumination intensity of a laser beam either by scattering or absorption.

Influencing Entanglement

In a study published in the newly-established *Journal of Anomalous Experience and Cognition*, Radin and colleagues Arnaud Delorme and Peter Bancel report four laboratory-based experiments and an online experiment that explored for the first time the influence of mental intention on the entanglement strength of pairs of photons.[Radin et al. (2021a)]. Subatomic particles that are entangled experimentally or naturally are connected through space and time as if they are one object, with actions performed on one instantaneously producing complementary changes in the other, even if separated by vast distances. Subjects were seated in front of a computer screen and instructed to influence visual feedback controlled by the fidelity of entanglement strength. A statistically significant effect across both the IONS and Paris labs ($p < 0.02$) was found. The three studies that were conducted at the Institute of Noetic Sciences were particularly successful ($p < 0.0002$) whereas a study conducted in Paris was not significant. Modestly significant results ($p < 0.05$) were observed in an online experiment where subjects are remote from the experimental set up, unable to influence it by non-paranormal means. These outcomes appeared to indicate that the strength of entangled states can be modulated by conscious intention, with important implications for understanding quantum theory.

The authors discuss the theoretical implications of their work in detail. The increase in correlation strength was measured and found to exceed the Tsirelson Bound – the boundary between quantum and super-quantum domains where the rules of spacetime break down. Although caution is warranted because of low

measurement stability, findings indicate that quantum theory provides an incomplete description of reality when trying to accommodate mental phenomena. More generally, it points towards consciousness as fundamental, supervening on quantum events rather than governed by them.

Intention Imprinting

Parapsychologists have often tested the ability of objects and materials to absorb and store human mental intention¹⁷ Radin and colleagues have carried out experiments testing the notion that water or food can be 'influenced' by positive thoughts to give it healing properties.

Chocolate

In a 2007 study, sixty participants were asked to fill in a daily questionnaire rating their mood for seven consecutive days. On three days of the seven they were asked to eat a half ounce of dark chocolate in the morning and afternoon, of which some had been exposed to mental intention by three methods – two by experienced meditators and a third by a Mongolian shaman. Neither the participants nor the experimenters knew whether they were eating the imprinted chocolate or control chocolate. The results showed that participants who ate the intentionally 'imprinted' chocolate rated their mood improved to a significant degree compared with those that ate the control chocolate. The improvement was much stronger in participants who ate chocolate rarely, with odds of about 1000 to 1 against chance.¹⁸

Water and Seeds

In 2017, Radin, along with Chinese psychologist Yung-Jong Shiah,¹⁹ tested if thaliana seeds hydrated with intentionally treated water would show differences in three standard biological measures: hypocotyl length, anthocyanin level, and chlorophyll level. Three Buddhist monks were instructed to focus intention on commercially bottled water with the goal of improving the growth of seeds. Untreated bottled water from the same source served as a control. The seeds were hydrated with treated or untreated water by a technician who was unaware of the nature of the water that was being handled, following which they were placed in random positions in an incubator. This germination process was repeated three times in each experiment, and the entire experiment was repeated four times, making it sufficiently powerful to detect relatively small healing effects. The results across the four experiments showed an astronomically significant decrease in hypocotyl length ($p = 10 \times 10^{-14}$); a highly significant increase in anthocyanin levels ($p = 10 \times 10^{-4}$); and a modest increase in chlorophyll ($p = 0.05$).

Radin and Shiah²⁰ attempted to replicate their 2017 study, adding a condition where the seeds as well as the water were intentionally treated. Arabidopsis seeds were used, as these contain a photosensitive flavoprotein called cryptochrome, which has been proposed as a possible mediator of paranormal influences, being governed by quantum processes, and might therefore be sensitive to the consciousness of an observer.

As in the first study, Radin and Shiah arranged for three Buddhist monks to direct their attention toward commercially bottled water and Arabidopsis seeds, while holding the intention to improve the growth of the plant. Under the same highly controlled conditions as before, highly significant effects for treated water were found, indicating growth promotion healing influences: shorter hypocotyl length ($p = 0.04$); higher chlorophyll levels ($p = 0.0005$); and higher anthocyanin levels ($p = 2 \times 10^{-6}$). Directly treated seeds resulted in greater amounts of chlorophyll ($p = 0.04$), longer hypocotyl length ($p = 0.0004$) and lower anthocyanin levels ($p = 0.01$). Radin and Shiah concluded that intentionally treated water improved the growth of the Arabidopsis, but a more complex relationship and lower effect was seen with treated seeds than with treated water.

In a third study, Radin and Shiah continued to investigate the effect of intention treated water, this time on human mesenchymal stem cells (MSCs).²¹ Water was imbued with healing intention from the focused meditation of three Buddhist monks. Under double-blind conditions, the expression of several genes associated with cell growth was measured. The experimenters found highly significant differences in cell growth, favouring cells treated with intention imbued water over the controls ($p = 0.0008$). It was concluded that intentionally treated water appeared to have some biological effects on the growth of human mesenchymal cells. Treated cells did not consistently show superior growth and the authors caution against over-interpreting this exploratory study, especially given that adjusting for multiple testing would reduce the significance levels; nevertheless, significant findings from a double-blind protocol justify further research.

Distant Healing

With Marilyn Schlitz and others, Radin has tested the possibility that a person's autonomic nervous system can be influenced by a person at a distance, and the extent to which motivation and training might increase these effects. In a 2008 study,²² the skin conductance level of 36 couples was measured while one was directing intention towards the other in a distant shielded room for thirty minutes, for repeated ten-second periods. In 22 of the couples, one of the pair was a cancer patient. For three months prior to the experiment, twelve of these couples were given a training program for a Tibetan meditation technique for 'sending compassion'.

As predicted, there was increased skin conductance during the 'sending' periods as compared with randomly selected periods in-between used as controls. Peak deviations were largest among the trained individuals.

Radin has also carried out experiments with experienced practitioners of [Johrei](#), a Japanese spiritual healing practice.²³ At random periods, they directed healing intentions at a flask containing human brain cells (used in preference to living subjects in order to rule out placebo effects). There was a strongly significant correlation with growth in the treated cells as the experiment progressed, while none was observed with control cells not exposed to treatment. It was also found in the same experiment that three random event generators nearby peaked in unison

during the healing periods, suggesting that healing intentions might also influence the environment.

Energy Medicine

A study published in 2020, by Radin with his colleagues from the Institute of Noetic Sciences in collaboration with a team from nearby Sonoma Pain Management Clinic, investigated the effects of energy healing for carpal tunnel pain.²⁴ The team recruited a large cohort of 190 adults experiencing carpal tunnel pain who received an energy medicine treatment. Self-reported pain was reduced after healing sessions; the effect was highly significant ($p < 0.000005$) and was not influenced by levels of expectancy. Further analyses found that well-being and sleep quality were significantly improved. It was concluded that preliminary evidence for pain relief from a single healing session was observed, warranting further controlled research.

In a manipulation of the above study, quantum noise generators (QNGs) were used as healing energy detectors.²⁵ Quantum noise generators derive their random output from quantum tunneling. This is in contrast to random number generators (RNGs) that process quantum noise into binary strings that are then matched against each other (known as XOR counterbalancing) to cancel out any bias from the final binary sequence. Such bias can arise from environmental influences or malfunctioning parts. Here, quantum noise generators made by Loren Carpenter acted as proxy detectors of mental intention and were continuously operated during the healing sessions. Using a 'spacetime' metric that captured both spatial and temporal variables, it was found that peak deviation occurred at 24 minutes into the half-hour ($p = 0.00003$). Control measurements eight hours after healing sessions gave chance deviations only. Focused healing intent appears to induce order (described as 'negentropy') in random physical systems.

Previously reported experiments²⁶ indicate that healing effects on water can be detected with spectroscopy. This claim was explored in a second manipulation of the energy healing study that was divided into two parts: a direct and indirect test.²⁷ In the direct test, samples of water were handled and treated by the healers; in the indirect test, aliquots attached to lanyards were worn by healers during the healing sessions. Both directly ($p < 0.03$) and indirectly ($p = 0.0004$) treated samples produced significant changes in the infrared spectrum at wavenumber 3200 cm^{-1} , corresponding to changes in the O-H bond. These results replicate previously positive studies showing an anomalous effect of mental intention on physical aspects of water.

Subtle Energy Perception

In a study published in 2022,²⁸ Radin and colleagues at the Institute of Noetic Sciences investigated the possibility of 'subtle energy' perception. Four self-identified professional clairvoyants were asked to use psi to detect the presence of subtle energy emanating from a Buddha relic (these crystal-like objects are reportedly found among the cremated remains of some Buddhist masters). The clairvoyants were permitted to hold their hands close to the opaque containers without touching them. Ten sessions were completed in which attempts were made

to distinguish the container containing a Buddha Relic from nine dummies. The number of correct identifications was at or below chance for all four clairvoyants. Radin and co-workers concluded that either it is not possible to detect subtle energy or the experimental conditions were unfavourable.

Mass Testing

Radin has been at the forefront of online testing for psi abilities.

In 2000 he developed Gotpsi – a suite of online games allowing users to test their psychic ability in three types of experiments: forced-choice, spatial tests, and remote viewing. With over 350 million trials involving 420,000 people, this represents the largest body of psi data ever collected. Beginning in 2017 these data are being probed for subtle patterns suggestive of psi.

In a location test, the user is asked to guess where on a blank screen a dot will be placed. After the choice has been made, the web-server randomly picks a location and calculates a probability value for the subject's guess. After 18 years the data were analysed for inclusion in Radin's fourth book *Real Magic*; nearly 600,000 sessions totalling 48.5 million trials were included. Radin reports a very large positive influence of belief in psi on the outcomes to a hugely significant degree, with a z-score in excess of 5 ($p = 10 \times 10^{-7}$).[29](#)

In a remote viewing test, the user imagines what image will be presented later and completes a simple binary questionnaire for the presence or absence of features such as people, open spaces and water features. The image is presented and a probability value calculated for the trial. After 18 years a total of 1.2 million trials have been collected, and again, a hugely significant relationship with belief in psi was found ($p = 10 \times 10^{-7}$).[30](#)

Two forced-choice tests were also conducted: a card test in which a target card was chosen from 5 possible options and a simple 3-choice picture guessing task.[31](#)

Over 100 million trials that involved an estimated 200,000 individuals around the world were collected. The direct hit rate combined across both experiments came close to the expected 20% chance level, but a planned secondary analysis based on previous research resulted in an extremely significant deviation ($p = 10 \times 10^{-26}$). In this analysis, a pattern in the hitting and missing that had been camouflaged by standard significance tests emerged strongly. Control tests found no evidence for optional stopping, response biases, target sequence dependencies, learning of subtle cues, or other potential artifacts.

In 2021, Radin with Julia Mossbridge reported an investigation into the possibility of capturing psi ability with an iPhone app.[32](#) Between 2017 and 2020, participants were tested for PK and precognition. Analysis of nearly a million trials performed by 2,613 unique visitors found significant PK effects in *the opposite direction* to that predicted, which was repeated with a confirmatory pre-registered replication ($p < 0.02$). Interestingly, randomly generated reference bits (used as a kind of control) showed marked deviations from chance ($p = 2 \times 10^{-10}$), that were repeated in a preregistered analysis ($p = 0.001$). Radin and Mossbridge speculate about either an unknown source of bias or PK influence to explain these extreme deviations.

Additionally, psi performance was found to be correlated with psi belief on all three tasks and gender influenced performance on two of the three tasks.

Psi and Genes

A study published by the IONS team in 2021 describes an attempt to locate portions of the genome that might be associated with psychic ability.³³ Over 3,000 individuals completed surveys on psychic family histories and symptoms suggestive of mental illness. Based on these responses, the most promising 13 respondents – those who had extensive family histories without evidence of mental illness – were invited for DNA sequencing. Exons – genes that code for proteins – were found to have similar variations across controls (23 individuals with no family history of paranormal ability) and psychic cases. Introns – non-protein coding regions or ‘junk DNA’ – revealed significant differences between control and psychic cases.

Death Classification

In a study published in 2020, Radin and co-workers asked participants to look at 180 facial photographs of deceased individuals and guess the cause of death from among three possible options: heart attack; death by firearm; or car accident.³⁴ Both electroencephalogram (EEG) and electrocardiogram (ECG) data were collected. Overall evidence indicated accurate guesses by participants ($p = 0.004$), but, unexpectedly, this was primarily driven by the performance of control subjects not claiming any mediumistic ability ($p = 0.005$). EEG and ECG differences were found between the mediums and controls with control participants having larger ERP (event related potential) amplitudes following image presentation than mediums. This indicated greater attention and less response inhibition by controls as compared to the mediums – possibly explaining the difference in death classification accuracy.

Scepticism and Controversy

In common with other practitioners in the field of parapsychology, Radin is a frequent target of attacks by sceptics.

Nature

In a 1997 review in *Nature* of *The Conscious Universe*, British statistician [I.J. Good](#) asserted that Radin’s claims of success with regard to psi experiments were vulnerable to the possibility of fraud and statistical error.³⁵ With regard to the first, he noted that Radin failed to mention a case of experimenter fraud by Samuel Soal, a British ESP experimenter, that was posthumously exposed by a parapsychologist in 1978, implying, at best, that Radin’s claims suffer by association; at worst, that he too may have cheated. (See [Samuel Soal](#)). He mentions further possible pitfalls (of the kind routinely made against all such claims): ‘unconscious cheating, wishful thinking (which is universal), unsound experimental design and analysis, and seeing what we expect’.

More specifically, Good disputed Radin's meta-analysis calculation that at least 3,300 unpublished failed studies would need to exist for published positive results to be cancelled out (the so-called 'file drawer factor'). Good calls this a 'gross overestimate' and, adopting different criteria, recalculates the figure as just fifteen, which in his view eliminates any psi effect.

Wikipedia

Radin's page in *Wikipedia*, originally written as a factual biography, has been substantially edited by anonymous individuals hostile to 'fringe science', some belonging to vigilante groups such as [Guerrilla Skeptics](#). At the time of writing (August 2017) the page consists almost entirely of critical comment, as is now the case with almost all *Wikipedia* articles on psi research topics.

The article gives prominence to the *Nature* review of *The Conscious Universe*. It further adds objections by career skeptics such as psychologist Ray Hyman, physicist Victor J Stenger, and writer Robert Todd Carroll, whose complaints about psi research – variously that it is fraudulent, is unsupported by scientists and sceptics, is vulnerable to bias and statistical error, and lacks a theory of how psi operates – have in *Wikipedia* largely displaced factual information about the research itself.

Testimonials

Scientists defended Radin against *Nature's* review of *The Conscious Universe*. British physicist and Nobel Laureate [Brian Josephson](#) complained to its editors about its selective criticisms of psi research, and he pointed out errors on the part of the reviewer.³⁶ Josephson drew attention to Radin's emphasis in the book that possibilities for fraud and unintentional error are much reduced by present day techniques. Soal's suspected cheating in the 1940s and 1950s is irrelevant to the consideration of more recent experiments, if only because readings now are no longer written down manually by the experimenter but recorded and analyzed automatically.

[Nick Herbert](#), an American physicist and author of *Quantum Reality*, wrote to *Nature* that he had 'never encountered a more intellectually dishonest treatment of another man's careful work'.³⁷ Herbert challenged Good's arbitrary recalculation of the file drawer factor, pointing out that Harvard psychologist [Robert Rosenthal](#) has suggested that a ratio of just five unpublished failed studies to one published study is sufficient to call the observed effect 'robust', and that to reject a file drawer factor larger than this suggests a 'pathological need to deny the data's validity at all costs'. Herbert adds: 'Radin's evidence deserves to be critically examined not "explained away" by patently foolish logical stunts'.

Neither of these letters was published by *Nature* (they can be read online).

Radin himself wrote to the journal contesting Good's file drawer analysis and requesting two factual errors be corrected. One concerned Good's estimation of the number of unpublished studies required to annul the positive findings (as mentioned by Herbert, above). The other was with regard to Good's reference to a

statistical critique by a sceptical psychologist, Mark Hansel, which Radin had quoted from in the book, but which contained an important error that Good wrongly attributed to Radin himself.³⁸

Radin added that Good had not discovered any genuine flaws in his comprehensive analysis of the empirical evidence for psi phenomena, and expressed the hope that this would motivate readers to study the evidence for themselves.

Initially, Radin's letter was not published. In a subsequent letter to *Nature*, [Michael G Rossmann](#), a biophysicist at [Purdue University](#), condemned the editors for failing to publish any of these rebuttals.³⁹ He charged that editors had colluded with a biased reviewer in perpetrating a fraudulent assessment, which he castigated as 'shameful' and 'unconscionable'.

Rossmann forcefully criticized the review itself, commenting

Radin asserts what his survey and book demonstrate – that the science of parapsychology is undergoing a deep phase-shift, from prolonged effort to satisfactorily demonstrate the mere existence of anomalous phenomena, into active inquiry into their nature. He exemplifies this in discussing his own research, presenting several novel species of remarkable experiment – including 'anticipatory dermal response', soundly demonstrating precognitive reactions to the content of randomly-presented pictures – on the forefront of current inquiry.

All this is news of a sort completely obscured by Good's review, which in context amounts not simply to one man's clumsy mis-representation of another's work, but to dis-information about an entire field of inquiry.

Rossmann's letter too was not published. In its issue of 9 April 1998⁴⁰, the editors of *Nature* published a correction, but only of the misattribution to Radin of Hansel's error, not of the incorrect file drawer figure. Following a change of editor, Radin's letter was finally published in the magazine, some eight months following the original review.⁴¹ However, Radin's concluding remark, the hope that readers would be motivated to study the evidence for themselves, had been deleted.

Other Scientists

Independently, scientists interested in consciousness have publicly expressed an interest in Radin's work. Writing about *Entangled Minds*, biochemist and Nobel Laureate [Kary Mullis](#) comments that nothing in the book should be seen as alarming, considering that '95 percent of the energy in the universe is presently undetectable and mysterious enough to be described as dark', but correctly anticipates that it will be 'met with fierce controversy especially by run of the mill psychologists'.⁴²

In his 2016 book *Humanity in a Creative Universe*, [Stuart Kauffman](#), an eminent complex systems theorist, explores the implications of the [von Neumann interpretation of quantum mechanics](#), in which consciousness is part of the process of measurement that causes the collapse of the wave function. He frequently cites Radin's optical physics findings as 'tentative' evidence in favour of this, with its

implication that consciousness is nonlocal, leading him to a panpsychist view in which humans have genuine free will.[43](#)

Radin says he corresponds regularly with many mainstream scientists, and that they privately show considerable interest in his work but insist on secrecy because of the sociopolitical sensitivities of psi research. He writes: 'In private, I've heard scientists and scholars describe their own psychic experiences with the same awed expressions that non-academics adopt when relating these tales. In public, academics quickly learn to not talk about their experiences'.[44](#)

There are other indications that scientists and academics are intrigued by Radin's work. An article he co-authored, titled 'Predicting the Unpredictable: Critical analysis and practical implications of predictive anticipatory activity', has been published in [Frontiers in Human Neuroscience](#), the most cited journal in academic psychology, where by August 2020 it had received nearly 94,000 views, more than 99% of all articles ever published in the *Frontiers* series.

In *Loop*, the impact metric site for *Frontiers*, Radin has more publications and views than 92% of all other authors.

Awards and Honours

2015: Nascent Systems Innovative Research Prize, for an article published in *Quantum Biosystems*

2015: Charles Honorton Integrative Contributions Award, Parapsychological Association

2015: Invited Speaker, Australian Davos Connection, Leadership Retreat, Hayman Island, Australia

2014: Silver Nautilus Book Award for *Supernormal* (Random House, 2013), Amazon #1 Bestseller in category of Religious History

2013–14: Plenary Speaker, International Center for Leadership, Kuala Lumpur, Malaysia

2010–11: Invited Speaker, Chief of Naval Operations Strategic Studies Group, Naval War College, Newport, RI

2010: National Visiting Professor, [Indian Council of Philosophical Research](#), New Delhi, India

2008: [Alumni Leader](#), Dept. of Electrical and Computer Engineering, U of Illinois, Champaign

1997: Book of the Year Award, Scientific and Medical Network, for *The Conscious Universe*

1996: [Outstanding Contributions Award](#), Parapsychological Association

1996: Alexander Imich Award; Rhine Research Center, Durham, NC

1992: Special Merit Award, GTE Laboratories, Waltham, MA

1989: Special Merit Award, Contel Technology Center (later merged with GTE Labs), Chantilly, VA

1984: Research & Development Award, AT&T Bell Laboratories, Columbus, OH

Works

Books

The Conscious Universe (1997)

[*The Conscious Universe: The Scientific Truth of Psychic Phenomena*](#) is a detailed overview of late twentieth century experimental psi research. It begins by discussing the need for evidence, replication and the uses of meta-analysis, and goes on to describe experiments in such areas as telepathy, perception at a distance, mind matter interaction, and mental interactions with living systems, also field consciousness research. It describes the history of research in each category and the development of experimental methods, and provides diagrams of meta-analysis showing large and in some cases overwhelming evidence of an effect.

In later chapters, Radin critiques skeptical complaints and behaviours, arguing that by trying to block responsible research, disbelieving critics have perpetuated myths about psi that parapsychologists themselves wish to dispel. He points out that informed critics such as Ray Hyman now acknowledge that experimental results are sometimes 'astronomically significant', shifting the debate away from whether such effects exist as to how they can be explained.⁴⁵ He discusses the effect of bias, and looks at the historical context to discover why mainstream science has vigorously resisted the experimental evidence for psi. Finally, he considers the future scientific and social implications of psi.

Entangled Minds (2006)

In [*Entangled Minds: Extrasensory Experiences in a Quantum Reality*](#), Radin brings the psi experimental evidence up to date, and places it in the context of quantum entanglement, the phenomenon of particles appearing to be connected across distance. When first discovered, entanglement was thought to apply only to particles, but research since the 1970s suggests the effect appears also at macroscopic levels. Quantum experts such as [Henry Stapp](#) believe it could be involved in brain processes, with implications for consciousness.⁴⁶ For Radin, this provides a path to understanding psi phenomena. If it is possible to shift attention to focus on a memory inside one's head, one might also be able to focus on a point at a distance, as with remote viewing. And because quantum connections are not bound by space or time, attention could also be focused on future events, as with presentiment and precognition.

Although Radin prefers to avoid mystical concepts, he has become sympathetic to the writings of the great mystics, who appear to be describing from an experiential point of view what it is like to *feel* entangled with the universe.

Could entanglement as a metaphor help us understand why phenomena like distant perception and distant intentionality might make sense? And what if this idea was more than a metaphor? What if the fabric of reality really was all quantum, all the time? Could there be “spooky actions” at a distance at every level of existence, and could those spooky actions take on new properties as they emerge from elementary to more complex forms? In other words, what if psychic phenomena are the human experiential version of quantum entanglement?[47](#)

Supernormal (2013)

[*Supernormal: Science, Yoga, and the Evidence for Extraordinary Psychic Abilities*](#) investigates the nature of psi phenomena in the context of yoga and the yogic tradition of *siddhis* (psychic powers). In Patanjali’s [*Yoga Sutras*](#), the *siddhis* are presented as neither magical or divine, but as the natural outcome of intense meditation practice. Radin points out that some can be investigated in the laboratory in controlled tests. Individual chapters focus on the evidence to date for precognition, telepathy, clairvoyance and mind-matter interactions, including experiments carried out with experienced meditators.

As with Radin’s earlier books, *Supernormal* includes extensive critiques of sceptical views and responses. It concludes by discussing how a greater understanding of psi phenomena achieved by means of experimental research might contribute to the development of a new idea of reality in Western thought.

Real Magic (2018)

In *Real Magic: Unlocking Your Natural Psychic Abilities to Create Everyday Miracles*, Radin discusses magic as a natural aspect of reality. He introduces the reader to a brief history of magic over the centuries, showing how various cultural manifestations of magical lore converge onto a worldview that mind is fundamental, then introduces scientific evidence – including unpublished analyses of online psi testing – that provide validation for this philosophy.

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Endnotes

Footnotes

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