

Rhine Research Center

The Rhine Research Center explores exceptional human experiences in relation to paranormal phenomena. Since its inception, the mission of the Rhine Research Center has been to advance the field of parapsychology. The three pillars of the Rhine Research Center are research, education, and community. These are



provided by cutting-edge research work, educational events and the Rhine Education Center, which holds numerous online meetings and activities. The Rhine Research Center also publishes *The Journal of Parapsychology*, the major outlet for parapsychological research.

History

Experimental parapsychology in the United States began with the work of Joseph Banks Rhine in the early 1930s at the psychology department of Duke University, Durham, North Carolina.^[1] ESP research had been carried out sporadically since the 1880s, notably card-guessing experiments by the French physiologist and psychical research Charles Richet, but it was Rhine's standardized approach that placed psi research on the academic map for the first time.

Experimental parapsychology – in the form of ESP card and dice PK testing – continued at Duke until Rhine's retirement 1965,^[2] at which time he moved the lab off-campus and renamed it the Foundation for the Research on the Nature of Man (FRNM). This included The Institute for Parapsychology before its current incarnation, The Rhine Research Center (RRC), in 1995. In 2002 it moved to its current home in a larger building near Duke University. It is currently managed and coordinated by executive director John G Kruth.

Historical Research

Pearce-Pratt

Card-guessing experiments formed the cornerstone of Rhine's early work. One of the most successful experiments involved a series of telepathy tests between psychologist Gaither Pratt and divinity student Hubert Pearce. The first experiment produced a hit rate of 32% on 700 card-guessing runs using a five-card deck, where chance expectation is 20%. To further increase methodological quality a long term telepathy series was ran between August 1933 and March 1934 in which Pearce and Pratt were separated by 100 meters (200 meters for 25% of the trials). Over time 1850 guesses were accumulated producing 558 hits where 370 are expected by chance, resulting in astronomical odds ($p = 10 \times 10^{-22}$).

Reassuringly, ESP scoring at 100 yards was higher than that found during local testing. Several months later Pearce lost his ESP ability and retreated from testing.

[3]

Dice-PK

Experimental PK research began in 1933 using dice as the PK target. That same year Rhine was approached by a young gambler, who believed he could sometimes influence the outcome of throwing a die simply by wishing for it.^[4] Rhine was initially sceptical, and the results of informal testing were unimpressive. But he was taken with the feasibility of this method, and launched a formal experiment with 25 subjects attempting to influence the fall of a pair of dice. They were instructed to wish for the sum to exceed. The probability of this occurring by pure chance is 5 in 12, or 41.7%: in 562 runs of 12 trials each. In fact, they obtained an average score of 5.53 times per run, slightly above the chance expectation, but statistically highly significant.

Looking for a conventional explanation, Rhine speculated that the extra pitting on high value faces could bias the weight distribution, in a way that caused these to come up more frequently. To eliminate this possibility, in the next experiment 9 participants were asked to will for a total less than 7, or 7 exactly, to ensure this would operate against any biasing effect. However, the results were again very significant, suggesting dice bias was not the explanation of the above-chance effects in either experiment.

Rhine continued dice PK experimentation with more stringent conditions, for instance using high quality casino dice and randomly choosing what face to wish for. To remove any possibility of direct physical influence, machines were introduced that tumbled the dice, released them automatically and photographed the outcome. In due course the process was standardized to a run of 24 throws where the expected number of hits would be 4 ($1/6 * 24$).

In 1943, Rhine published an overview of 20 experiments carried out over 9 years. The early ones were marred by flaws, but overall the results were significant. But more evidential than the above-chance scoring was the appearance of an unexpected pattern in the data. The record sheets were divided into quarters, and detailed analysis revealed a marked fall-off in hit rates as each quarter progressed. This 'quarter decline effect' was extremely significant at 100 million to one, and being difficult to explain in terms of recording mistakes or design artefacts was considered by Rhine to be strong evidence for a mind-matter effect. This work continued at the Duke lab with the controls being tightened still further, and variables thought to modulate the effect, such as tumbling method and number of die faces, being examined.^[5]

Mouse-Ether Studies

In the early 1970s, Graham and Anita Watkins performed experiments investigating the ability of healers to awaken anaesthetized mice from behind a thick glass plate. The healers were able to arouse a mouse, one selected from a pair at random, to a significant degree ($p < 0.0001$).^[6]

Helmut Schmidt and RNGs

A major line of research in the early 1970s was initiated by Boeing physicist Helmut Schmidt at the Institute for Parapsychology. In an initial experiment, a participant was presented with a metal box, about a foot square, on the top of which a circle of nine lamps flashed in sequence. His task was to attempt to influence the sequence of lights in a particular direction – either clockwise or counter-clockwise, during the experimental runs. This was the beginning of a new paradigm in psi research that involved influencing atomic events. The lamp display was connected to a random number generator (RNG) in another room. The RNG contained a counter cycling between one and two at a rate of a million times per second: when an electron from a sample of radioactive Strontium-90 inside the box was detected by a Geiger tube, the counter in either the one or the two position, causing the display to turn clockwise or counter-clockwise respectively.^[7]

This pilot experiment produced results opposite to expectation: in 27,648 binary trials (216 runs of 128), the data were nearly significantly *below* chance. Such ‘psi missing’ effects are common in parapsychology, and often hint at underlying processes or conditions that were not initially planned for or expected. For his second experiment Schmidt decided to *predict* negative scoring, enlisting negative scorers from the first. The outcome showed highly significant odds against chance of more than a thousand to one, and a scoring rate of 49%, against the expected 50%.

In the ensuing years, Schmidt reported a large number of studies aimed at unlocking the mystery of mind-matter interactions. Eventually this became a major line of research in parapsychology that is active today.

Unlocking the Ganzfeld

By the late 1980s, two US laboratories had accumulated large databases from ganzfeld telepathy experiments – the Institute for Parapsychology and the Psycho-Physical Research Laboratories (PRL) directed by Charles Honorton. The PRL labs had amassed personality data from over 300 participants that revealed three factors to be associated with high ESP scoring: previous psychic experiences, meditation practice, and scoring as FP (feeling/perceiving) on the Myers-Briggs Type Indicator (MBTI) personality test. Participants who scored high on all of its measures were accurate upwards of 50% of the time, more than double the chance level of 25%.¹⁰ Richard Broughton, who was director of research at the time, analyzed the data from the Institute for Parapsychology and found 28 participants who fitted the three-factor model – their scoring rate was 43%, independently confirming the PRL model.^[8]

Broughton collaborated with Honorton and encouraged him to turn over all the PRL records and research equipment to the Institute for Parapsychology when PRL closed, and this was used in a large-scale effort to replicate PRL’s ‘auto-ganzfeld’ (computerized ganzfeld experiment) findings^[9] as well as in subsequent fine-grained analyses of ganzfeld performance.^[10] The Rhine currently has an operational auto-Ganzfeld system based on the original studies done at FRNM and PRL.^[11]

PK Computer Games

Following theorizing by Rex Stanford on the psi-mediated instrumental response (PMIR), Richard Broughton argued that researchers should look at psi as need-serving and conduct experiments that give participants a real reason to use psi. He saw 'winning' as a likely motivator and extended his computer-based psi testing to have the appearance of competitive games,⁸ a task made easier by the arrival of desktop computers in the early 1980s.

In one example he designed an RNG-based psychokinesis test that appeared to be a competitive dice game and invited local Duke University students to play against students from the neighbouring University of North Carolina (UNC), their sports arch-rivals. The Duke students played a 'warm-up' game and then the 'real game' but in reality there were no UNC students. The manipulation proved to be effective emotionally, but that was not reflected in any differences in psi performance, although interesting secondary interactions with personality characteristics were seen.^[12]

Checker Effect

The checker effect refers to an anomalous influence on the outcomes of psi experiments caused by the first people who check the results – usually the primary investigators. The effect was first reported by Sarah Feather (Rhine's daughter) and Brier,^[13] who found significant differences favouring Feather when she acted as checker.

In the mid 1980s, research interns Nancy Zingrone and Debra Weiner collaborated in an attempted replication. The first series revealed a significant checker effect ($p = 0.006$): Zingrone's data achieved marginally above chance scoring while Weiner's scored significantly below. The second series tested for Observation Theory, which posits that experimental results exist in a probability cloud until a conscious observer 'collapses' them to a defined outcome. Blinded session data was compared with non-blinded data where the experimenters knew which of them had been predicted by the subjects to check which segment of data. The blinded runs revealed no checker effect, but the non-blinded data revealed a significant checker effect ($p = 0.025$), replicating the first series and providing support for Observation Theory.^[14]

The first series of tests in a second experiment revealed no checker effect under non-blinded conditions. In the second series, the checker effect again emerged under non-blinded conditions but not blinded conditions.^[15]

Current Research

Biophotons

Rhine Research Centre Director John G Kruth has turned his attention to research by continuing the work of Bill Joines and Steve Baumann, who founded the Bioenergy Laboratory at the Rhine Research Center in the early 2000s.^[16] The laboratory's purpose is to detect electromagnetic radiation from humans during times of focused intent, for example, during deep meditation or energy healing.

Sensitive infrared (IR) and ultraviolet (UV) light detection equipment measures invisible light emissions from gifted individuals who volunteer to participate.

Over the lifetime of the laboratory over a hundred individuals – including self-proclaimed energy healers, meditators, martial artists, and others who claim no special ability – were measured for their ability to emit biophotons (low level ultraviolet light emissions from biological organisms including humans). These experiments occur in complete darkness in a double-dark room.

Kruth and his colleagues^[17] found that four individuals and three meditation groups could achieve biophoton counts up to a million a second, where control readings typically give less than ten counts a second. These huge deviations began when the individuals focused on their respective disciplines and subsided when the activity ceased.

The research has continued to flourish, with several other high-profile healers, including well-known energy practitioner Edd Edwards, achieving extraordinarily high biophoton counts. These persist despite the careful measures taken to eliminate potential confounds. Lately, Kruth has found high biophoton counts even when the sensor is capped, suggesting that some effects might be due to psychokinesis on the general operation of the detector rather than the production of biophotons.

Unconscious PK in Computer Systems

John Kruth's most recent research involves carrying out an experiment to discover whether anxiety on the part of operators in a computer network may cause communication errors. Participants were asked to complete simple but tedious tasks, experiencing frustration from software glitches that had been deliberately created in order to impede their progress (a control group performed the same task unencumbered). Meanwhile, an independent network was rapidly sending messages (simple lines of text) to the computers; some were garbled or incomplete as a result of communication errors that normally occur, for instance as a result of network collisions, wiring issues or signal interruptions, but the software, instead of correcting them, was counting them so that researchers might determine how many occurred during the process.

The prediction that anxiety-prone participants would produce more network errors than less anxious operators was confirmed ($p = 0.04$), appearing to show that anxiety may affect network communication, and possibly cause other unintended electronic effects.^[18]

The Levy Affair

Walter J Levy was a medical school graduate who became a prolific and highly regarded researcher at the then Foundation on the Nature of Man (FRNM) in 1973. He impressed Rhine so much that he was soon promoted to director of the Institute and was expected to succeed Rhine after his imminent retirement. Levy consistently obtained very significant results in various animal psi experiments. Despite the automated nature of these experiments Levy spent a long time in the

vicinity of the testing environment. This aroused the suspicions of his colleagues, who covertly wired up Levy's equipment so that it would produce a duplicate output. Instead of replicating the primary record, the duplicate output was completely random. This proved that Levy was manipulating the output so as to give the impression of a non-random psi influence. When Rhine was presented with this evidence, he confronted Levy, who admitted his falsifications. Levy was dismissed and his research publications retracted. Despite the damage to the reputation of parapsychology, this episode confirms the self-correcting nature of the field.^[19]

Journal of Parapsychology

The *Journal of Parapsychology* was inaugurated in 1937 and quickly became recognized worldwide as an authoritative resource cataloguing the scientific study of paranormal phenomena. The journal was established by Joseph Banks Rhine and William McDougall based at the then Duke University Parapsychology Lab. *The Journal of Parapsychology* includes experimental reports, theoretical discussions, book reviews, correspondences, and abstracts of papers from the Parapsychological Association's annual convention. It is the premiere journal in the field of parapsychology and the official journal endorsed by the Parapsychological Association. As of October 2020 the editor is Sally Ann Drucker.^[20]

Education

Educational outreach has been an important endeavour of the Rhine Research Centre since the establishment of the summer study program in the 1970s. This was an intensive eight-week course comprehensively covering parapsychology.

Today, the Rhine Education Center is an online school designed to teach parapsychological principles, history, and research methods to students interested in academic parapsychology. The Rhine Education Center includes over 40 courses available in quarterly sessions and offers certificate programs to guide students through their studies. Over 500 students have attended courses offered by dozens of researchers since it opened in 2011.^[21]

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Endnotes

Footnotes

1. ^ Rhine (1934).
2. ^ Rhine (1940).
3. ^ Rhine & Pratt (1954).
4. ^ www.williamjames.com/Science/PK.htm
5. ^ Rhine (1943).
6. ^ Watkins & Watkins (1974).
7. ^ Schmidt (1970).
8. ^ Broughton et al (1990).
9. ^ Broughton & Alexander (1997).
10. ^ Bem et al (2001).
11. ^ Kruth (September 2020): Personal communication.
12. ^ Broughton & Perlstrom (1986, 1992).
13. ^ Feather & Brier (1968).
14. ^ Zingrone & Weiner (1986).
15. ^ Zingrone & Weiner (1989).
16. ^ Joines et al (2012).
17. ^ Kruth et al (2012).
18. ^ Kruth (2018).
19. ^ Kennedy (2014).
20. ^ <https://www.parapsychologypress.org/journal-of-parapsychology>.
21. ^ <http://www.rhineeducationcenter.org/edu/>