



The Princeton Engineering Anomalies Research (PEAR)

The brainchild of [Robert G. Jahn](#), who, in 1979, when he was Dean of the School of Engineering and Applied Science at Princeton University, claimed he wanted "to pursue rigorous scientific study of the interaction of human consciousness with sensitive physical devices, systems, and processes common to contemporary engineering practice." In short, he wanted to be a [parapsychologist](#) and test [psychokinesis](#) (PK). Not so unbelievably, he has found several others at Princeton who also were tired of humdrum work in the humanities, social sciences, engineering, and physics, and have joined the quest to prove that the mind alone can alter matter.

In the 1960s, physicist and parapsychologist Helmut Schmidt started using random event generators to do PK experiments. According to Dean Radin (1997), over the years Schmidt provided solid scientific support for the PK hypothesis and the people involved in the PEAR group replicated Schmidt's work in 258 experimental studies and 127 control studies. C.E.M. Hansel, however, claims that regarding all the studies done after 1969 and before 1987 that attempted to replicate Schmidt's work: "The main fact that emerges from this data is that 71 experiments gave a result supporting Schmidt's findings and 261 experiments failed to do so" (Hansel 1989: 185).

In 1986, Jahn, Brenda Dunne, and Roger Nelson reported on millions of trials with 33 subjects over seven years trying to use their minds to override random number generators (RNG). Think of the RNG as producing zeros and ones. Over the long haul, the laws of probability predict that in a truly random sequence, there should be 50% of each produced. The subjects in the PEAR experiments tried to use their minds to produce more zeros (or ones, depending on the assignment). In short, the PEAR people did what many drivers do when they try to use their thoughts to make a red light turn green.

In 1987, Dean Radin and Nelson did a [meta-analysis](#) of all RNG experiments done between 1959 and 1987 and found that they produced odds against chance beyond a trillion to one (Radin 1997: 140). This sounds impressive, but as Radin says "in terms of a 50% hit rate, the overall experimental effect, calculated per study, was *about* 51 percent, where 50 percent would be expected by chance" [emphasis added] (141). A couple of sentences later, Radin gives a more precise rendering of "about 51 percent" by noting that the overall effect was "just under 51 percent." Similar results were found with experiments where people tried to use their minds to affect the outcome of rolls of the dice, according to Radin. And, when Nelson did his own analysis of all the PEAR data (1,262 experiments involving 108 people), he found similar results to the earlier RNG studies but "with odds against chance of four thousand to one" (Radin 1997: 143). Nelson also claimed that there were no "star" performers.

However, according to Ray Hyman, "the percentage of hits in the intended

direction was only 50.02%" in the PEAR studies (Hyman 1989: 152). And one 'operator' (the term used to describe the subjects in these studies) was responsible for 23% of the total data base. His hit rate was 50.05%. Take out this operator and the hit rate becomes 50.01%. According to John McCrone, "Operator 10," believed to be a PEAR staff member, "has been involved in 15% of the 14 million trials, yet contributed to a full half of the total excess hits" (McCrone 1994). According to Dean Radin, the criticism that there "was any one person responsible for the overall results of the experiment...was tested and found to be groundless" (Radin 1997: 221). His source for this claim is a 1991 article by Jahn et al. in the *Journal of Scientific Exploration*, "Count population profiles in engineering anomalies experiments" (5:205-32). However, Jahn gives the data for his experiments in [*Margins of Reality: The Role of Consciousness in the Physical World*](#) (Harcourt Brace, 1988, p. 352-353). McCrone has done the calculations and found that 'If [operator 10's] figures are taken out of the data pool, scoring in the "low intention" condition falls to chance while "high intention" scoring drops close to the .05 boundary considered weakly significant in scientific results.' According to McCrone, the "size of the effect is about .1 percent, meaning that for every thousand electronic tosses, the random event generator is producing about one more head or tail than it should by chance alone" (McCrone 1994).

These data should remind us that statistical significance does not imply importance.

Furthermore, Stanley Jeffers, a physicist at York University, Ontario, has repeated the Jahn experiments but with chance results (Alcock 2003: 135-152). (See "Physics and Claims for Anomalous Effects Related to Consciousness" in Alcock et al. 2003. [Abstract](#).) And Jahn et al. failed to replicate the PEAR results in experiments done in Germany (See "[Mind/Machine Interaction Consortium: PortREG Replication Experiments](#)," *Journal of Scientific Exploration*, Vol. 14, No. 4, pp. 499–555, 2000).

Based on the results of these experiments, Radin claims that "researchers have produced persuasive, consistent, replicated evidence that mental intention is associated with the behavior of ...physical systems" (Radin 1997: 144). That sounds like a hasty conclusion to me. He also claims that "the experimental results are not likely due to chance, selective reporting, poor experimental design, only a few individuals, or only a few experimenters" (Radin 1997: 144). He's probably right except for the bit about it being unlikely that the experimental results are due to chance or to only a few individuals.

Jahn, six of his associates, and PEAR even have a patent ([US5830064](#)) on an "Apparatus and method for distinguishing events which collectively exceed chance expectations and thereby controlling an output." The PEAR people are so convinced of the breakthrough nature of their work that they have incorporated as Mindsong Inc. They claim their corporation "is developing a range of breakthrough products and research tools based on a provocative new technology -- proprietary microelectronics which are responsive to the inner states of living systems." One of their breakthrough products is some software "that allows you to influence, with your mind, which of two images will

be displayed on your computer screen." They also sell a device for several hundred dollars that lets you do your own testing of mental influence on randomized outputs.

On their website, PEAR states that after more than twenty-five years they are shutting down and moving on. "Over the next few years, PEAR will be concluding its experimental operations at Princeton University," says the notice on their "Future" tab (accessed 12/3/06).^{*} It seems that Bob Jahn and Brenda Dunne are looking for a number of like-minded folks who want to spend their time or money on the study of minds interacting with machines. They've set up a new outfit called [International Consciousness Research Laboratories](#). As their first fundraiser, they are selling "a multi-DVD/CD set entitled *The PEAR Proposition*" for a mere \$62, including psychic shipping and handling. The replication studies are available on a blank DVD disc, available at no cost to true believers.

See related entries on [confirmation bias](#), [ESP](#), [experimenter effect](#), [ganzfeld experiments](#), [law of truly large numbers](#), [meta-analysis](#), [occult statistics](#), [parapsychology](#), [pathological science](#), [psi assumption](#), [post hoc fallacy](#), and [psychokinesis](#).

[further reading](#)

- [A Short History of Psi Research by Robert Todd Carroll](#)
- [Critique of the PEAR Remote-Viewing Experiments](#) (1992) by George P. Hansen, Jessica Utts, Betty Markwick, *Journal of Parapsychology*, Vol. 56, No. 2, June, pp. 97-113.
- [The Evidence for Psychic Functioning: Claims vs. Reality](#) (1996) by Ray Hyman
- [Evaluation of Program on Anomalous Mental Phenomena](#) (1995) by Ray Hyman
- [Slashdot](#) - News for Nerds, IBM and Mind Input Devices
- [The Princeton Engineering Anomalies Research](#)
- [STATS - Statistics and the Media](#) (This site had nothing to do with PEAR but since PEAR's claims are based upon statistical analysis of data, I thought some readers might like to look at a site that does nothing but look at statistical data and examine what some people try to do with that data.)

[Alcock, James E., Jean Burns and Anthony Freeman \(2003\). Editors. *Psi Wars: Getting to Grips with the Paranormal*. Imprint Academic.](#)

[Ehrlich, Robert \(2003\). *Eight Preposterous Propositions: From the Genetics of Homosexuality to the Benefits of Global Warming*. Princeton University Press.](#) (Ehrlich, a physicist, considers the proposition that we can influence matter by mind alone to be highly preposterous, meriting four flakes (out of four) on his

