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**THE SKEPTIC’S DICTIONARY**

**Between 1974 and 1981, forty-two ganzfeld experiments were conducted whose results were reported or published. According to Charles Honorton, 55% of the studies produced positive results and a** [**meta-analysis**](http://www.skepdic.com/metaanalysis.html) **found a successful hit rate of 38% when 25% was expected by chance.**

**However, there were enough problems with the original ganzfeld studies that Honorton and Hyman issued a joint communiqué in 1986 in which they detailed the kinds of safeguards that future experiments should take. Hyman writes: “In our joint paper, both Honorton and I agreed that there were sufficient problems with this original database that nothing could be concluded until further replications, conducted according to specified criteria, appeared.” In the joint paper, they wrote: “We agree that there is an overall significant effect in this data base that cannot reasonably be explained by selective reporting or multiple analysis. We continue to differ over the degree to which the effect constitutes evidence for psi, but we agree that the final verdict awaits the outcome of future experiments conducted by a broader range of investigators and according to more stringent standards**

**A few years earlier, Honorton and a few other parapsychologists were using automated techniques in their ganzfeld experiments. The autoganzfeld experiments, created by** [**Dr. Rick Berger**](http://www.parapsych.org/members/r_e_berger.html)**, were conducted between 1983 and 1989. “Most of the [auto]ganzfeld experiments took advantage of lessons learned in past psi research, thereby avoiding many of the design problems discovered by early experimenters” (Radin: 74). The results of the autoganzfeld were published in 1990 in the Journal of Parapsychology. There were eight experimenters involved in eleven studies, who used 240 people in 354 sessions. They produced a hit rate of 34% when 25% was chance expectation.**

**There are three phases to the ganzfeld experiments.**

**1. Preparing the receiver and the sender. The receiver should be placed in a comfortable chair in a soundproof room. She wears headphones which play continuous white noise or pink noise. (White noise is a type of noise that is produced by combining sounds of all different frequencies together. If you took all of the imaginable tones that a human can hear and combined them together, you would have white noise. This masks any distinguishable sounds and virtually eliminates sensory input from sounds. Pink noise is white noise with the high frequencies left out and sounds like a waterfall.) Over her eyes are halves of ping-pong balls. A red light shines on her face. Before the test begins, a relaxation tape is played to put her in a relaxed state. After several minutes of the unchanging sensory field, the receiver allegedly achieves a state similar to being in a sensory isolation chamber. Hallucinations are commonly reported in this state. Before being sealed in the ganzfeld chamber, the receiver is asked to say out loud what she is feeling or “seeing.” She does this for about 20 minutes before being sealed in. She is asked to continue to speak. The experimenter has a direct communication to the receiver’s room and can hear and record everything she says, as well as communicate to her should this be necessary. The receiver's reveries are piped to the sender, as well. This is considered “feedback” and is supposedly helpful in guiding the sender to alter his method of telepathic sending.**

**Apparently, not all of the studies had truly soundproof rooms, so videos might be heard in the hallway by experimenters and their discussions might be overheard by the receiver. Critics of both the ganzfeld and autoganzfeld questioned whether most of the studies had truly eliminated this avenue for** [**sensory leakage**](http://www.skepdic.com/sensoryleakage.html)**.**

**2. Sending the target. The sender is seated In another soundproof room, preferably in another part of the building rather than adjacent to the receiver's room. A pool of opaque packets contains potential targets. Typically, the packets will consist of four pictures or four short video clips. Ideally, the pictures or videos are very unlike each other. Ideally, the target is arrived at by a truly random selection being made from the packets and then another random selection being made from the selected packet. Ideally, the experimenter who works with the sender and the sender himself do not meet with the receiver or the experimenter who is working with the receiver until after the receiver has been shown the target and the three decoys and has made her selection. At that point the actual target may be revealed and a recording made of whether it was a hit or a miss.**

**The sender concentrates and uses mental intention to try to telepathically communicate the target to the receiver. Breaks are taken and the sending process is repeated several times. It is important that the experiments use truly random methods of selecting which packet to use and which target to select from that packet. In the autoganzfeld, the selecting and showing of the target to the sender was automated**

**3. Judging the outcome. The whole process of a single session lasts from 15 to 30 minutes. The receiver is relieved of her headphones and eye covers and is "presented with several stimuli (usually four) and, without knowing which stimulus was the target, is asked to rate the degree to which each matches the imagery and mentation experienced during the ganzfeld period. If the receiver assigns the highest rating to the target stimulus, it is scored as a "hit." Thus, if the experiment uses judging sets containing four stimuli (the target and three decoys or control stimuli), the hit rate expected by chance is .25" (Bem and Honorton 1994).**

**The experimenter working with the receiver or the receiver herself "may detect creases, marks, smudges, temperature differences or other artifacts that result if actual targets have been handled and then mixed in with targets from a pool for judging. Handling cues may also result when targets placed in envelopes are opened and then resealed or placed in new envelopes, as has sometimes been done."**[**\***](http://www.williamjames.com/Science/CONTROLS.htm) **Ideally, two sets of targets should be used, one handled by the sender and the other given to the receiver for review. However, only 36% of the studies used duplicate target sets of pictures to avoid handling cues (Honorton 1985).**

**Ideally, a randomization procedure should be used to determine the order in which target and decoys are presented to receivers. It is possible that a pattern of sending and selecting might occur that has nothing to do with information or energy transfer, but rather has something to do with human tendencies to choose the first, second, third, or fourth item when given a choice to select one. The autoganzfeld experiments were designed to randomly assign the order of showing the target and decoys to the receiver. The autoganzfeld also avoided the problem of forcing a choice from the four potential targets by introducing a 40-point scale for the receivers to measure how close they thought each target was to the kinds of mentation they had been having. It seems to have been the case that in some of the ganzfeld experiments receivers tended to select the second, third, or fourth item presented much more frequently than the first one shown. To avoid this kind of selection bias, randomization of the order in which the actual target is shown should be used and checks should be made to make sure that the target is presented in each of the four positions at nearly equal rates.**

**The autoganzfeld should have eliminated handling cues, since neither sender nor receiver handled the targets, which were all shown on a monitor. However, these early studies were done using analog video tapes and not all used duplicate tapes. Some critics wondered whether some receivers might be detecting a difference between the target video and the decoys because the target would have been repeatedly played during the sending session and may have shown a slight, but detectable, decay in quality.**

**problems**

**As mentioned above, there were problems with the original ganzfeld experiments involving sensory leakage and randomization procedures. There were other problems, as well. Only fifteen of the studies appeared in refereed journals; twenty were abstracts of papers delivered at meetings of the Parapsychological Association; 5 were published monographs; and two were undergraduate honors theses in biology. In 1981 or 1982, Honorton sent all the reported studies to Hyman who proceeded to do a meta-analysis of them. Hyman concluded that the data did not warrant belief in psi, primarily because of many flaws he found in the experiments themselves. He found three types of flaws: (1) security flaws (sensory leakage; information could have been transferred by experimenters to receivers by talking in the hallway or inadvertently communicating information during the judging phase); (2) statistical flaws; and (3) procedural flaws (randomization problems; documentation problems). He rejected twenty studies as being fatally flawed. That amounted to about half the database. He stripped the data down to twenty-two studies by eight investigators and 746 trials, which accounted for 48% of the data base. Even so, Hyman found the same hit rate of 38% for these studies that Honorton had found. But, after adjusting for selection bias and quality of study, Hyman calculated the replication success rate was 31% not 55%. In his view, 58% of the studies used inadequate randomization procedures.**

**Honorton didn't agree with all of Hyman's criticisms—especially the ones claiming that there were statistical flaws in Honorton's meta-analysis—but he did agree that there were sufficient problems with the database that no grand conclusions should be drawn until further studies were done, studies that were very tightly designed and controlled.**

**In 1994, Daryl Bem and Honorton published a paper in** [**Psychological Bulletin**](http://www.dina.kvl.dk/~abraham/psy1.html) **in which they claimed the autoganzfeld studies of 1983-89 replicated the ganzfeld studies of 1974-81. They argued that the autoganzfeld, though much superior in design than the ganzfeld, got similar results. They listed a number of features of the autoganzfeld that seemed to answer the questions that any skeptic might have.**

**For example, the rooms for the sender and receiver were “separate, acoustically-isolated chambers.” And the targets consisted of 80 still pictures (static targets) and 80 short video segments complete with soundtracks (dynamic targets), all recorded on videocassette. The static targets included art prints, photographs, and magazine advertisements; the dynamic targets included excerpts of approximately 1-min duration from motion pictures, TV shows, and cartoons. The 160 targets were arranged in judging sets of four static or four dynamic targets each, constructed to minimize similarities among targets within a set.**

**The VCR containing the taped targets was interfaced to the controlling computer, which selected the target and controlled its repeated presentation to the sender during the ganzfeld period, thus eliminating the need for a second experimenter to accompany the sender. After the ganzfeld period, the computer randomly sequenced the four-clip judging set and presented it to the receiver on a TV monitor for judging. The receiver used a computer game paddle to make his or her ratings on a 40-point scale that appeared on the TV monitor after each clip was shown. The receiver was permitted to see each clip and to change the ratings repeatedly until he or she was satisfied. The computer then wrote these and other data from the session into a file on a floppy disk. At that point, the sender moved to the receiver's chamber and revealed the identity of the target to both the receiver and the experimenter. Note that the experimenter did not even know the identity of the four-clip judging set until it was displayed to the receiver for judging.**

**The random selection of the target and sequencing of the judging set were controlled by a noise-based random number generator interfaced to the computer. Extensive testing confirmed that the generator was providing a uniform distribution of values throughout the full target range (1-160). Tests on the actual frequencies observed during the experiments confirmed that targets were, on average, selected uniformly from among the 4 clips within each judging set and that the 4 judging sequences used were uniformly distributed across sessions” (Bem & Honorton).**

**Additional control features included the following:**

**The receiver's and sender's rooms were sound-isolated, electrically shielded chambers with single-door access that could be continuously monitored by the experimenter. There was two-way intercom communication between the experimenter and the receiver but only one-way communication into the sender's room; thus, neither the experimenter nor the receiver could monitor events inside the sender's room. The archival record for each session includes an audiotape containing the receiver's mentation during the ganzfeld period and all verbal exchanges between the experimenter and the receiver throughout the experiment".**

**The automated ganzfeld protocol has been examined by several dozen parapsychologists and behavioral researchers from other fields, including well-known critics of parapsychology. Many have participated as subjects or observers. All have expressed satisfaction with the handling of security issues and controls” (Bem & Honorton).**

**Bem and Honorton also note that “parapsychologists have often been urged to employ magicians as consultants to ensure that the experimental protocols are not vulnerable either to inadvertent sensory leakage or to deliberate cheating.” The autoganzfeld procedures were examined by two mentalists, Ford Kross, a professional mentalist and officer of the mentalist's professional organization, the Psychic Entertainers Association, and Daryl Bem, a research psychologist who has performed as a mentalist for many years and is also a member of the Psychic Entertainers Association. Both agreed that the automated ganzfeld system “provides excellent security against deception by subjects."**

**Ray Hyman complained, however, that controls were not as tight as they should have been. He writes:**

**The experimenter, who was not so well shielded from the sender as the subject, interacted with the subject during the judging process. Indeed, during half of the trials the experimenter deliberately prompted the subject during the judging procedure. This means that the judgments from trial to trial were not strictly independent.**

**Not until I was asked to write a response to a new presentation of these experiments in the January 1994 issue of the Psychological Bulletin did I get an opportunity to scrutinize the raw data. Unfortunately, I did not get all of the data, especially the portion that I needed to make direct tests of the randomizing procedures. But my analyses of what I did get uncovered some peculiar and strong patterns in the data. All of the significant hitting was done on the second or later appearance of a target. If we examined the guesses against just the first occurrences of targets, the result is consistent with chance. Moreover, the hit rate rose systematically with each additional occurrence of a target. This suggests to me a possible flaw. Daryl Bem, the coauthor with Honorton of the Psychological Bulletin paper, responded that it might reveal another peculiarity of psychic phenomena. The reason why my finding is of concern is that all the targets were on videotape and played on tape players during presentation. At the very least, the peculiar pattern I identified suggests that we need to require that when targets and decoys are presented to the subjects for judging, they all have been run through the machine the exact same number of times. Otherwise there might be nonparanormal reasons why one of the video clips appears different to the subjects.**

**I concluded, and do so even more strongly now, that the autoganzfeld experiments constitute neither a successful replication of the original ganzfeld experiments nor a sufficient body of data to conclude that ESP has finally been demonstrated. This new set of experiments needs independent replication with tighter controls. (**[**1996**](http://www.csicop.org/si/9603/claims.html)**)**

**Have controls been tightened and have the studies been replicated? In June 1996, several researchers published a paper in The Journal of Parapsychology that describes the many security and design protocols instituted at the Psychophysical Research Laboratories (PRL) for further autoganzfeld research. This lab is at the University of Edinburgh and is used by researchers associated with the Koestler Chair of Parapsychology. These protocols are very detailed and need not be gone into here. (The paper is available** [**online**](http://www.findarticles.com/p/articles/mi_m2320/is_n2_v60/ai_18960810)**.) They seem to answer most questions any skeptic might have about the autoganzfeld procedure. The authors write:**

**It is our view that the physical environment in which the ganzfeld takes place must be held as constant and secure as possible to aid in our understanding of psi phenomena. We acknowledge that there is no such thing as a single absolutely fraud-proof experiment, and we would not claim otherwise. However, it is vital that experimental protocol that provides a high measure of security be coupled with the type of warm, encouraging, and friendly environment that psi seems to demand. In this way all parties concerned can proceed comfortably with the business of doing research and learning from each session.**

**There have been new experiments and believers such as Jessica Utts say they replicate the earlier positive-result studies. Skeptics disagree. For example,** [**Julie Milton and Richard Wiseman**](http://www.sciencenews.org/sn_arc99/7_31_99/fob4.htm) **published their own meta-analysis of ganzfeld studies and concluded that "the ganzfeld technique does not at present offer a replicable method for producing ESP in the laboratory" (1999). Others have re-analyzed that data and have come to a different conclusion. In 2001, Bem, Broughton, and Palmer, published their own meta-analysis of the same data reviewed by Milton and Wiseman ("Updating the Ganzfeld database: A Victim of its own success?" Journal of Parapsychology 65, 2001). They found a hit rate for all experiments was 30% when 25% was expected by chance. And, finally, ever-the-optimist Dean Radin published his own meta-analysis (with Marilyn Schlitz) of the ganzfeld experiments in 2001 and concluded that the hit rate in the ganzfeld was so great that the odds against chance were "greater than a trillion to one." [M. Schlitz & D. I. Radin, "Telepathy in the ganzfeld: State of the evidence," in W. Jonas & C. Crawford (Eds.), Healing, Intention and Energy Medicine (London: Harcourt Health Sciences, 2002).] They "found a grand total of 929 hits out of 2,878 sessions reported by researchers from at least 15 different laboratories." Radin claims that he and Schlitz had "surveyed the telepathy literature to update all known ganzfeld trials."**[**\***](http://www.royalinstitutephilosophy.org/think/article.php?num=13) **However, Andrew Endersby claims that he has more than twice that number of sessions in his database of ganzfeld experiments.**[**\***](http://www.skepticreport.com/psychics/ganzfeld3.htm) **Endersby writes:**

**At the end of my research I find a hit rate of between 28.6% and 28.9% depending on certain choices concerning which scoring methods to use on particular experiments. This doesn't have quite the headline grabbing appeal of 1 in 3 instead of 1 in 4 but the hit rate is still highly significant for 6,700 sessions. However, this contains all experiments. Flawed or not, standard or not. There's no doubt that this figure can be tweaked up or down according to ruling in or out certain experiments.**

**Therein lies both the attraction and the repulsion of meta-analysis. The results may depend on which individual studies one excludes from the meta-study. Establishing the existence of telepathy in the ganzfeld seems like too important an issue to have the result determined by meta-analyses. Surely, there should be an effort made to conduct a well-designed study with a very large number of participants.**

**conclusion**

**We may be justified in having a very high confidence that when ganzfeld studies are done, receivers are likely to guess correctly a one-in-four target at significantly greater than chance odds. It is still a leap to assume that information or energy has been transferred. Maybe it has but how it occurred is anybody's guess. As Bem and Honorton say: if there is an anomalous transfer of information or energy, it doesn't have to be paranormal.**

**Paranormal investigator Susan Blackmore (**[**2001**](http://www.csicop.org/si/2001-03/conciousness.html)**) has an insider's view of the ganzfeld. She has gone over the circumstances under which the ganzfeld studies were conducted and the papers that have been published in support of the psi hypothesis. Here are her comments:**

**How can one draw reliable and impartial conclusions in such circumstances? I do not believe one can. My own conclusion is based not just on reading these published papers but also on my personal experience over many years. I have carried out numerous experiments of many kinds and never found any convincing evidence for psi (Blackmore 1996). I tried my first ganzfeld experiment in 1978, when the procedure was new. Failing to get results myself I went to visit [Carl] Sargent's laboratory in Cambridge where some of the best ganzfeld results were then being obtained. Note that in Honorton's database nine of the twenty-eight experiments came from Sargent's lab. What I found there had a profound effect on my confidence in the whole field and in published claims of successful experiments.**

**These experiments, which looked so beautifully designed in print, were in fact open to fraud or error in several ways, and indeed I detected several errors and failures to follow the protocol while I was there. I concluded that the published papers gave an unfair impression of the experiments and that the results could not be relied upon as evidence for psi. Eventually the experimenters and I all published our different views of the affair (Blackmore 1987; Harley and Matthews 1987; Sargent 1987). The main experimenter left the field altogether.**

**I would not refer to this depressing incident again but for one fact. The Cambridge data are all there in the Bem and Honorton review but unacknowledged. Out of twenty-eight studies included, nine came from the Cambridge lab, more than any other single laboratory, and they had the second highest effect size after Honorton's own studies. Bem and Honorton do point out that one of the laboratories contributed nine of the studies but they do not say which one. Not a word of doubt is expressed, no references to my investigation are given, and no casual reader could guess there was such controversy over a third of the studies in the database.**

**Of course the new autoganzfeld results appear even better. Perhaps errors from the past do not matter if there really is a repeatable experiment. The problem is that my personal experience conflicts with the successes I read about in the literature and I cannot ignore either side. I cannot ignore other people's work because science is a collective enterprise and publication is the main way of sharing our findings. On the other hand I cannot ignore my own findings—there would be no point in doing science, or investigating other people's work, if I did. The only honest reaction to the claims of psi in the ganzfeld is for me to say "I don't know but I doubt it.**

**Blackmore’s skepticism stands in stark contrast to Radin’s glowing optimism and his claim of overall hit rates with odds against chance of a million billion to one (Radin 1997: 88). He seems to be overstating the case when he writes “We now know that ... psi effects do occur in the ganzfeld” (88).**

**Actually, what we know is that the jury is still out and it probably will never come in if the best that parapsychologists can come up with is a statistic in a meta-analysis that is unlikely due to chance. Even if we take the data at face value, we know that no matter how statistically significant the results are, the actual size of this psi effect is so small that we can’t detect it in a single person in any obvious way. We have to deduce it from guessing experiments. What hope do we have of isolating, harnessing, or expanding this power if a person who has it can’t even directly recognize its presence? Then again,** [**what if Dean Radin is right?**](http://www.skepdic.com/essays/radin.html)

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**THE SCIENCE SEGMENT**

**More Astronomy Facts:**

**Stars Massive star = 3.2 x Sun.**

 **No stars have ever been detected between galaxies.**

**Nemesis Theory: Death star believed to orbit our sun may have caused dinosaur extinctions and other periodic catastrophes.**

 **White dwarf: Old-age for 97% of all stars. They are ultradense.**

**novas: Begins as two ultraclose stars: one becomes a white dwarf whose gravity draws gas from its companion, a red giant.**

 **Novas: Type 1 Type 2 Type 3**

 **Stage (A) Our Sun Sun x 10 Sun x 40**

 **(B) Red giant Red giant**

 **(C) White dwarf**

 **(D) Nova Super Nova**

 **(E) No remnant Pulsar Black Hole**

**Super-Nova: stage in which massive star passes through white dwarf, neutron star (pulsar), and possibly even black hole, before exploding.**

**supernovae type 1 = binary star system.**

**supernovae type 2 = single massive star.**

**Sun's temp 10-12,000 (surface). 3.6-5 million (atmosphere).**

 **It burns hydrogen, converting it to helium in a fusion reaction.**

**Temperature interstellar space = app 3 degrees Kelvin.**

**Uranus has 11 rings**

**Wormhole differs from a Black hole in that it has 2 mouths.**

 **The space between the 2 mouths is a shortcut through space.**

**roche limit earth = 11,500 miles (the distance at which an object cannot escape gravity.**

**solar system**

**speed around galactic center ~ 500,000 mph.**

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**THE ARENA GOES ABROAD**

**10/11/08**

**ESCALATING ANTI-CHRISTIAN VIOLENCE HAS FORCED ALMOST 1,000 FAMILIES TO FLEE THE IRAQI CITY OF MOSUL, AFP REPORTS. THEY ARE HIDING IN SURROUNDING SCHOOLS AND CHURCHES AFTER THREE HOMES WERE BOMBED IN THE CITY, A KNOWN AL-QAEDA STRONGHOLD. THE VIOLENCE "IS THE FIERCEST CAMPAIGN AGAINST THE CHRISTIANS SINCE 2003," A PROVINCIAL GOVERNOR SAID. "AMONG THOSE KILLED OVER THE PAST 11 DAYS WERE A DOCTOR, AN ENGINEER AND A HANDICAPPED PERSON."**

**THE LATEST ATTACKS COME DAYS AFTER CHALDEAN ARCHBISHOP LOUIS SAKO URGED WASHINGTON AND BAGHDAD TO PROTECT IRAQI CHRISTIANS, WHO HAVE NO MILITIAS FOR SELF-DEFENSE. "WE ARE THE TARGET OF A CAMPAIGN OF LIQUIDATION, A CAMPAIGN OF VIOLENCE. THE OBJECTIVE IS POLITICAL," SAKO SAID. THE ANTI-CHRISTIAN CAMPAIGN HAS FORCED NEARLY 300,000 CHRISTIANS TO FLEE IRAQ SINCE THE US INVASION 5 YEARS AGO, HE SAID.**

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**FAMOUS QUOTES**

**Epicurus (341 BCE, Samos – 270 BCE, Athens) 71 years.**

**He was an ancient Greek philosopher and the founder of the school of philosophy called Epicureanism. Only a few fragments and letters remain of Epicurus's 300 written works. Much of what we know about Epicurean philosophy derives from later followers and commentators.**

**For Epicurus, the purpose of philosophy was to attain the happy, tranquil life, characterized by aponia, the absence of pain and fear, and by living a self-sufficient life surrounded by friends. He taught that pleasure and pain are the measures of what is good and bad, that death is the end of the body and the soul and should therefore not be feared, that the gods do not reward or punish humans, that the universe is infinite and eternal, and that events in the world are ultimately based on the motions and interactions of atoms moving in empty space.**

**TALK ABOUT BEING AHEAD OF HIS TIME - HELL, HE’S AHEAD OF 90% OF THE PEOPLE OF OUR TIME!**

**HIS QUOTE:**

**"Is God willing to prevent evil, but not able? Then he is not omnipotent.**

**Is he able, but not willing? Then he is malevolent.**

**Is he both able and willing? Then whence cometh evil?**

**Is he neither able nor willing? Then why call him God?"**