

# **The Association For Rational Thought News**

## **Practicing The Art Of Rational Thinking In Everyday Life**

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The Association for Rational Thought is a new organization committed to encouraging rational, well-informed evaluation of fringe-science, pseudo-science, and paranormal claims. A.R.T. encourages the investigation of paranormal and pseudo- scientific claims from a responsible, scientific viewpoint and the distribution of the results of such investigations to the public. You are cordially invited to become a member of A.R.T.

### **April Meeting: Election of Officers**

The Second Annual Election of Officers for the Association for Rational Thought will be held Saturday, April 10, 10:00 A.M. at our new meeting place, the Bethesda Blue Ash Medical Building (see article below). Our goal is to fill every slot required by our By-Laws.

The By-Laws require that we elect a President, Vice- President, Secretary, Treasurer, Membership Secretary, Investigations Officer, Publicity Coordinator, Newsletter Editor, Meeting Organizer, and Media Resources Coordinator. These officers make up the Executive Council, which meets several times a year at the discretion of the president. Officers elected in April take office in May.

The Executive Council, chaired by President Keith Brabender, has been able to fill the following offices for the coming year: President, Keith Brabender; Vice-President, Dick McGrath; Corresponding Secretary and Publicity Coordinator, Mary Pacinda; Treasurer, Peggy Borger; Membership Secretary, Roy Auerbach; Investigations Officer, Joe Gastright; Newsletter Editor, Virginia Jergens. All of these officers are presently serving in these positions.

We still need a Recording Secretary, a Meeting Organizer and a Media Resources Coordinator.

The Recording Secretary takes minutes at Membership and Executive Council meetings. The Meeting Organizer's job is to determine topics for meetings and introduce the program at each meeting. The Media Resources Coordinator will organize a pool of experts to be available to respond to inquiries made by the media about pseudoscientific or paranormal phenomena. The Meeting Organizer and the Media Resources Coordinator may each organize a committee to help carry out her or his duties.

Please call Keith Brabender if you are interested in doing one of these jobs next year (May, 1993-April, 1994) or if you have any questions about the election process. Get involved! Being an involved skeptic is twice as much fun as being a sideline skeptic, and provides a truly useful service to the community.

Plan to join us after the meeting for lunch and lively conversation at the James Tavern, across the street from the Bethesda Blue Ash Medical Building.

### **At Last, A New Meeting Place!**

A.R.T. has a new, well-lighted, comfortable meeting place north of Cincinnati in Blue Ash. The Bethesda Blue Ash Medical Building, 4360 Cooper Road, is at the intersection of Cooper Road and Reed Hartman Highway. Driving instructions are on the back page.

Our new quarters come to us through the generosity of Claudia Harsh, M.D., spouse of A. R. T. Membership Secretary Roy Auerbach. Dr. Harsh's practice, the Crescent Women's Medical Center, has offices which include a well-equipped classroom which the practice will allow us to use free of charge. The new location includes plentiful parking and convenient facilities closer to A.R.T. members who live north of Cincinnati. James Tavern, across the street, is available for lunch. The food is good, the parking easy, and the prices perhaps a dollar a sandwich more than at the Greenwich Tavern, our former meeting place.

Both regular membership meetings and Executive Council meetings will take place at the new Blue Ash location. We are indebted to Dr. Harsh and the practice, and to Roy Auerbach, who came up with this excellent solution to our meeting place problem.

## Notes from the President

**Executive Council Adopts Guidelines:** On December 12, 1992, the Executive Council adopted guidelines for choosing the speakers who address the monthly meetings. The guidelines are based on the By-laws, which state that A.R.T. is "dedicated to the development of rational thinking and the application of the scientific method to claims of paranormal and fringe-science phenomena."

The guidelines are: 1) The speaker and topic will encourage the development of rational thinking. 2) The speaker will apply scientific methods or other recognized standard scholarly techniques to the topic. 3) The purpose of the program will be exclusively educational and scientific. No product or service may be advertised during the presentation.

The Executive Council believes these guidelines will help A.R.T. achieve its fundamental goals by keeping the goals firmly in mind when choosing speakers. These same goals apply to the long-term outlook for A.R.T. as well. I am often asked, "What does A.R.T. do?" Usually I summarize the preamble, or tell the inquirer about the scientific method.

However, I am tempted also to say that the things I have mentioned are the goals A.R.T. would like to reach. A.R.T. is only in its second year, and is still focusing on building a solid organizational base, filling committees, filling speaker slots, sending out newsletters, and increasing membership.

Some members are disappointed at A.R.T.'s inability to perform the work of a "missionary," converting the populace to the use of the scientific method, but the organization is not yet strong enough to undertake major educational work. A concerted effort to engage the public through visits to schools, through the media, or through a large scale seminar featuring nationally known speakers must wait for the future, when ART hopes there will be larger base from which to draw the kind of money and manpower required for such an effort.

Other members have expressed their dismay at the notion that A.R.T. do "missionary" work. They believe that A.R.T. should be a group where like-minded people can meet and discuss issues of common interest. In their opinion, the rest of the world will believe what it believes with or without A.R.T. For them, A.R.T. functions as a club, and that is sufficient.

Like all good politicians, I can see the good in both points of view. It is my hope that A.R.T. will be able to fill both roles, and that a choice between the two will be unnecessary. This year emphasis has been placed upon A.R.T. as a meeting ground for the existing membership and the new members who have recently joined. The "missionary" role has been neglected in the process of building the organization.

As A.R.T. members, however, we can informally act as "missionaries" in our daily lives. As members of our communities we are in contact with many different people every day, and the principles of science A.R.T. advocates can be part of our daily conversations. I have been asked my opinions on the paranormal on many occasions, because people know I am active in A.R.T. and think my opinion is worth hearing.

In order to strengthen A.R.T. so it can be both a place for members to discuss common interests and a platform for educational efforts, A.R.T. needs actively involved members. I want to thank those who are already actively involved and to encourage newcomers to actively take part in A.R.T. in whatever way suits them best. The '92-'93 year has been a year of progress, but as you can see there is still much that is left to be done.

**Skeptics Need to Learn to Tolerate Differences:** I have read enough of the Skeptical Inquirer and newsletters from other skeptical organizations to conclude that groups of skeptics often have the same problems. One of the most interesting is the members' differences over exactly which topics are appropriately the subject of skeptical comment. People in A.R.T. and other skeptical organizations certainly seem to relish "skeptic" as their designation. Members who are thoroughly skeptical about one topic are often entirely unwilling to consider another topic from a skeptical point of view.

I would not be surprised, for example, to attend an A.R.T. meeting and hear a member denounce channeling as dangerously unscientific, but defend ESP as authentic because that member's aunt was unquestionably blessed with this gift. For this member ESP would be off limits to skeptical inquiry

Every one of us harbors ideas that we refuse to criticize skeptically. A.R.T. cannot refuse to discuss a subject because a member believes it is off limits. If a member believes in ESP, so be it. A.R.T. is not personally attacking this member's family, nor is it attempting to force a member to believe something. When the inevitable conflicts of opinion occur, I hope members will remember that the purpose of A.R.T. is to encourage the honest investigation of all paranormal and fringe science subjects. The object of skepticism is to try to reach a judgment based on an objectivity independent of how one may feel personally. This message may seem both obvious and redundant, but I include it here in an attempt to prevent the damage too many good organizations suffer when members feel the group has personally wronged them. For A.R.T. to continue to prosper, members need to disagree in an atmosphere of intellectual curiosity based on the scientific method.

Alternative Medicine Research May Be Useful: On February 10, the New York Times front page included an article by Natalie Angier, "U.S. Opens Door Just a Crack to Alternative Forms of Medicine." The article reported that the National Institute of Health is about to set up an Office of Alternative Medicine which will "explore the merits of therapies outside mainstream healing." My initial reaction was one of dismay, but after discussing it with Joe Gastright, A.R.T. Investigations Officer, my dismay has been greatly lessened. The one point he made that did the most to subdue my reaction was that although attempts will be made to confirm unscientific practices as useful and valid, other research will counteract these efforts. As Joe pointed out, homeopathy has never been proven to have any scientific merit. This new research, if done appropriately, should result in the same findings. If it does not, a response from the scientific community is sure to follow. Optimistically then, this research may lead to finally putting some of these ideas to rest. -Keith Brabender, President.

#### **Dick McGrath on Stigmata**

At the February meeting, A.R.T. Vice-President and Roman Catholic theologian Dick McGrath gave a talk on stigmata, morbid marks of unknown origin on the skin, especially ones which bleed spontaneously. These unexplained lesions are known to have occurred since the Middle Ages on the palms, side, forehead, feet, back, and on other places on the body.

There is a great deal of evidence that these wounds, which have no apparent cause and are unresponsive to medical treatment, do occur. St. Francis of Assisi is often mentioned as the first person in the Christian tradition to have been a stigmatic, but there is evidence that they occurred earlier. Many stigmatics were recorded during the 11th and 12th centuries, but evidence for stigmatics earlier than this is sparse. Stigmata also occur in adherents of religions other than Christianity, including Buddhism and Islam.

A modern example of the stigmatic is Joan Hunt, an English woman who since 1985 has had spontaneously bleeding wounds. Most of the over 300 people in the world today who exhibit these symptoms are women. Stigmatics include all ages from teenagers to people as old as 80. Stigmatics typically engage in fasting, have visions and trances, and claim to work miracles. Stories about stigmatics are abundant, florid, and highly varied. Some stigmatics are said to have wounds that bleed only on Fridays, or only on feast days. Some claim never to eat.

Stigmatics are often mystics who meditate a great deal on the suffering of Jesus or Mohammed or on the suffering of humanity in general. Many do not eat much, are not given to entertainment, and have a great deal of empathy for others. They typically feel the suffering of others and are almost obsessed by suffering. In their concern they are likely to focus on the wounds of a religious leader, for example, Jesus or Mohammed.

Some stigmatics have been found to be frauds, for example, women who injure their own hands, and can be explained. Other stigmatics have not been shown to be frauds, and their wounds are more difficult to explain. The interpretation often given is that these lesions are replicas of the wounds Jesus suffered when he was crucified, or replicas of wounds suffered by Mohammed.

There is considerable evidence that these wounds are not replicas of the wounds of religious leaders. In the case of Jesus, for example, the wounds claimed to be related to or caused by meditating on his crucifixion have too much diversity to be clearly related to the wounds Jesus is thought to have suffered upon crucifixion. The wounds of stigmatics occur in all shapes and sizes and all over the body, not in the locations where one would expect to find them had the stigmatic been crucified. For example, stigmatics often show wounds to the palms of the hands. Evidence suggests that those crucified were not nailed to the cross through the hands, since experiment has shown that the weight of arm pulls the nail through the hand. Historical evidence collected from the bodies of those crucified suggests that nails were driven not through the palms but between the bones of the forearm, where the bones were strong enough to withstand the weight of the body. The palmar stigmata reflect traditional depictions of crucifixion in art, but not the way crucifixions were historically performed.

Since these wounds appear to occur unassisted by fraud, the question becomes what causes them? Evidence points to a psychological explanation. Stigmatics typically are under considerable mental, emotional and perhaps physical stress. Often a major shock in the life of the stigmatic triggers the phenomenon. Many stigmatics are chronically ill. Tuberculosis, for example, is a common illness among stigmatics. In addition to stress, many stigmatics give evidence of multiple personality traits, speaking of themselves as if they were two or more persons. Some stigmatics appear to be susceptible to suggestion. A German stigmatic known as Elizabeth K. was reported by her doctor to have stigmata responsive to his suggestions to her. In addition, there is evidence that people can take on the symptoms of someone close to them who is ill, as for example when a wife focuses on her husband's illness and develops some of his symptoms. Thus the explanation is thought to be psychological rather than theological in nature.

The vast majority of Christian stigmatics meditate on detailed, bloody images of the crucifixion. Meditation on these images seems by some unknown effect of the brain on the body to produce the stigmata. The mechanism through which this occurs is not understood. One hypothesis is that the phenomenon is similar to mimicking behavior in insects and animals, in which the animal or insect takes on the coloration of its background. The Roman Catholic church holds that stigmata are not miracles or signs of divine favor.

More stigmatics occur in Germany and South America than elsewhere, for reasons unknown. Stigmatics are known to have occurred in India, but not in China or Japan. Although frauds are likely to display their stigmata, stigmatics who are not frauds often conceal the problem. Peggy Borger suggested that stigmata may have become popular during the 11th and 12th centuries because at that time the Christian church emphasized the passion of Jesus and the crusades. Stigmata may have been seen as sharing in the suffering of Jesus, sharing in his passion, and shedding one's blood to help humanity. Most stigmatics who are not frauds are likely to be retiring people like Padre Pio, an Italian Capuchin monk and a stigmatic whom Dick McGrath visited when he was studying in Italy. Padre Pio wore gloves rather than expose his stigmata to public view.

For more information, see René Biot, *The Enigma of the Stigmata*, translated by T. J. Hepburne-Scott (1962) and Herbert Thurston, *The Physical Phenomena of Mysticism* (1952).

### **Misuse of Statistics by Parapsychologists**

At the January meeting, Joe Gastright, A.R.T. Investigations Officer, gave a wide ranging and highly entertaining talk on the use of basic statistics and probability in understanding allegedly paranormal events. He began by explaining how "scientific" parapsychologists misuse statistics to promote their cause.

In an attempt to wrap their "research" in scientific garb, such parapsychologists routinely present statistically significant differences found in paranormal research as evidence supporting their belief in paranormal events. Here are five ways in which such evidence may be falsely obtained. A simple way to find statistical evidence of a paranormal event is to repeat experimental trials until a result supporting the paranormal hypothesis turns up. For example, if five coins are flipped, the probability of getting 5 heads in a row is 3%. If 5 coins are flipped 10 times, the probability of getting 5 heads in a row is 27%. If five coins are flipped 100 times, the possibility that five heads in a row will occur is 96%. If a hypothesis is false at the 95% confidence level, it is likely that about one in twenty trials will turn up statistically significant evidence suggesting that the hypothesis is true. Such "evidence" is readily exploited failing to mention the nineteen or so trials in which no evidence of mind reading turned up, and emphasizing the one trial which had positive results. Conducting multiple tests will eventually turn up an instance of an unusual event.

Another way to find statistical evidence of a paranormal event is to use extremely big samples. The bigger the sample, the smaller the number of supporting cases needed to show statistical significance. If the sample is large enough, a tiny number of cases supporting the paranormal hypothesis can have statistical significance. This is the method used by Robert G. Jahn, retired Dean of Engineering at Princeton University and author of *Margins of Reality*. In his research, volunteers attempted to use their minds to influence a computer-driven binary random number generator. After millions of trials, the volunteers were able, by concentrating on "1," to encourage the machine to produce 20,000 1's to 19,999 0's. Because of the size of the sample the difference, 2/19,999, is statistically significant. Unfortunately for the "mind over matter" hypothesis, it is not scientifically significant. The reason is that the experiment simply continued until significant results were obtained. A legitimate design states the number of cases to be used in the experiment beforehand and stops when that number of cases had been obtained.

Re-analysis can be used in a similar way to produce "statistically significant" results. In this method, if the experimental results do not support the hypothesis, the researcher checks around in the data until positive results turn up. For example, if the subject was unable to predict the shape on a card at better than the rate expected by chance in 100 trials, the researcher might check to see if the subject predicted the shape in the first 50 trials, or the last 50. Or perhaps the subject was not predicting the shape on the cards as they appeared, but was running one card ahead or behind. At a 95% confidence level, twenty such re-analyses could be expected to turn up at least one positive result. The parapsychologist presents that one positive finding as evidence that the hypothesis has been supported, ignoring the fact that only the 100 trials as proposed in the hypothesis provide a legitimate test of the hypothesis. The other analyses test other hypotheses, not the one specifying 100 trials, and thus can provide no evidence either pro or con.

Another method is to ignore the requirement for random trials. Instead of running a predetermined number of trials and basing the results on those trials, as experimental method requires, the experimenter begins trials and starts collecting data when the data start to look "promising." Should the data turn "unpromising," the trials are halted. This method is often defended by making one of two mutually exclusive claims: "psychic powers need a warm-up" or they are "too strong to control." The researcher can claim that the "evidence" supports the paranormal hypothesis by neglecting to mention how the reported trials were "selected."

Claiming that statistically significant but unreplicated evidence "proves" paranormal hypotheses is another way statistics are misused by paranormal psychologists. Experiments that have resulted in data supporting paranormal hypotheses have never been replicated by non-believers. Because of predictable variability in experimental findings, scientists do not accept the results of one experiment as proof of a hypothesis. Only when a hypothesis is supported in a variety of settings using a variety of methods, is it accepted as likely to be true. If paranormal effects were real, they could be replicated.

### Joe Gastright Reads Minds at the January Meeting!

Have you ever wondered how "psychics" seem to be able to guess numbers people in their audiences are thinking of? The key to this puzzle, according to Joe Gastright, who spoke to A.R.T. at the January meeting, is understanding the average person's notion of random numbers. Most people, when asked to think of any number between, say, 1 and 20, try to choose a number randomly, but fail in the attempt. They believe that random numbers never repeat the same number twice, so they rarely choose a number like 11. They avoid numbers at both ends of the range, so rarely pick 1 or 20. They also avoid numbers ending in 0 or 5, because these seem too regular to be random. They also avoid runs, so rarely choose a series like 2,3,4. Common misperceptions about what random numbers look like make a "psychic's" job easier, as Joe demonstrated to A.R.T. members. He said, "I am thinking of a number between 1 and 10, a number like 3, but it is not 3. Write down the first number that comes to your mind." Members dutifully wrote down a number, with the following results, here compared with a group of almost 200 who were asked the same question (totals do not equal 100% because of rounding):

Response	Number Choosing Response	Percent Choosing Response	Members Choosing Response	Percent of Members Choosing Response	Probability of Response Based on Chance
1	4	2	2	9	11
2	6	3	2	9	11
3	10	5	0	0	0
4	7	4	1	5	11
5	25	13	2	9	11
6	37	19	6	27	11
7	63	32	3	14	11
8	23	12	2	9	11
9	21	11	4	18	11
10	1	1	0	0	11
	197	100	22	100	100

What is interesting about these results is the nonrandom choice of numbers made by A.R.T. members and Joe's sample. Note that 6, 7, or 8 were chosen by 50% of A.R.T. members and 63% of Joe's sample. This tendency of people to consistently choose 6, 7, or 8 is what helps the "psychic" look as though he or she has special powers. After asking the audience to think of a number between 1 and 10, but not 3, the "psychic" can feel quite comfortable with claiming that the number he or she was concentrating on was 7. Typically well over half of the audience will have chosen 6, 7, or 8. Using the pretty-close-is-a-direct-hit principle, many in the audience will agree with the "psychic" that "psychic powers" have indeed been demonstrated.

Similar patterns of consistency in choice can be demonstrated for other number choices, and for shapes and objects as well. Another consistency well-known to "psychics," although not to most of the rest of us, is a tendency for most people to choose the same shapes when given this question: "This time I am thinking of two simple geometric forms, and one is inside the other. You can write it down--you don't need to draw them."

Here the responses of a sample of 590 people asked this question are compared to the responses of A.R.T. members at the January meeting:

Response	Number Choosing Response	Percent Choosing Response	Number of Members Choosing Response	Percent of Members Choosing Response
Circle-Triangle	203	34%	3	14%
Circle-Square	146	24%	5	23%
Triangle-Square	66	11%	5	23%
Two of the same figure	28	28%	2	9%
All Others	147	24%	7	32%
	590	100%	22	100%

Note that 58% of the larger sample chose either the circle- triangle of the circle-square combinations. Even the members at the January meeting, a sample too small and therefore too unstable to provide reliable percentages, resulted in 37% choosing one of the first two choices. According to Joe, mentalists like Kreskin and Uri Geller typically use this question with large audiences, where they can be confident that most people will choose one of the first two choices, thus confirming their "psychic" powers.

### **Magic for Skeptics II**

#### **Secrets of Psychics, Mediums, and Mentalists**

CSICOP will sponsor a seminar in Lexington, Kentucky, April 16, 17, and 18. Seminar leaders will be Robert Baker, who gave a lively lecture on ghosts to A.R.T. last year, and Joe Nickell, CSICOP Executive Council member, and author of *Secrets of the Supernatural and Mysterious Realms*.

Several A.R.T. members attended Magic for Skeptics I in Lexington last spring and reported that they learned a great deal and had a wonderful time. This year the focus of the seminar will be on exposing the secrets of "psychics" and "mediums" by teaching participants how to develop their own mentalist routines, including predicting the future, perceiving remote objects, and talking with discarnate spirits. Methods for investigating alleged "psychics" will also be included.

The fee for the seminar is \$130, which includes a magic kit. Optional Saturday night banquet is \$27. Register for the seminar and the banquet with *Skeptical Inquirer*, PO Box 703, Buffalo, NY 14226, 716-636-1425. Mention CSICOP when you register at the Ramada Hotel, PO Box 11308, I-75 Newton Pike, Lexington, KY 40575, to get a special room rate of \$49 for a single or a double.

#### **Books Introduced at the February Meeting**

Joe Gastright brought to the February meeting several books that he thought might interest members, including *The Write Stuff*, a book about the deceptive use of graphoanalysis in hiring employees. He also introduced a new journal, *Skeptic*, published quarterly by the Skeptics Society, and "devoted to the investigation and promotion of science and rational skepticism." *Skeptic* is 8 1/2" x 11", about 76 pages and includes long, thorough, illustrated articles. Joe believes the articles are better researched and more comprehensive than articles in *Skeptical Inquirer*. A year's subscription is \$30.00, and the address is 2761 North Marengo Avenue, Altadena, California 91017. He also shared Joe Nickell and John E. Fischer's *Mysterious Realms: Probing Paranormal, Historical, and Forensic Enigmas*, the authors' third case book of investigations of assorted unusual events. 221 pages, Prometheus Books (Catalog available, Prometheus Books, 59 John Glenn Drive, Buffalo NY 14228-2197 or call 1- 800-421-0351 any time.)

## Calendar

Regular Membership Meetings are held on the second Saturday of the month, October through May, at 10:00 A.M., at the Bethesda Blue Ash Medical Building. Executive Council Meetings are usually held the first Saturday of the month, 10:00 A.M., Bethesda Blue Ash Medical Building. Call President Keith Brabender to confirm.

- April 10, Saturday, 10:00 A.M. Annual Membership Meeting. Election of Officers. Roy Auerbach on "How to Detect Scientific Quackery." Bethesda Blue Ash Medical Building.
- May 8, Saturday, 10:00 A.M. Regular Monthly Meeting. Bethesda Blue Ash Medical Building. Keith Brabender on "The Logics of Argument: Why Discussions Are Often Like Ships That Pass in the Night."
- June 12, Saturday, 10:00 A.M. Executive Council Meeting for Old and Incoming Officers. Bethesda Blue Ash Medical Building.