

The REALL News

The official newsletter of the Rational Examination Association of Lincoln Land

"It's a very dangerous thing to believe in nonsense." — James Randi

Volume 8, Number 12

December 2000

Fighting Ignorance with The Straight Dope The Nocebo Effect & Healing Prayer

by David Bloomberg

As I've mentioned before, I write for the Staff Reports (formerly called Mailbag) portion of *The Straight Dope* by Cecil Adams. The column is of the question-and-answer variety and runs mostly in alternative independent newspapers across the country. It does not run here in Springfield, but you can still read it on the web at www.straightdope.com and buy collections in book form at pretty much any book store.

A number of the Mailbag answers I write are also related to REALL, so we reprint them here from time to time. This month, we have the following questions: Is there an anti-placebo effect? Is prayer an effective healing method?

As before, Ed Zotti, Cecil's editor, did some editing on these answers.

Dear Straight Dope:

I've always wondered about any anti-placebo effect. For instance, I am skeptical that zinc lozenges prevent colds, but if they do, I sure want them to prevent mine, but I am worried that my skepticism will negate any real effects. So, is there an anti-placebo effect? — Karen

In a word: Yes.

Now let's look at it in many more words, including one that is a relatively new word to the English language: "nocebo."

As most people probably know already, placebos are inert pills or other harmless therapies once prescribed for hypochondriacs who demanded that the doctor "do something." (The Latin word *placebo* means "I will please.") Today placebos are given as part of medical experiments to examine how well a treatment works. The idea is that the treatment should do better than the placebo, or else there's no point. This weeds out treatments that don't actually help, but just rely on, well, the placebo effect—you think a treatment will help you get better and so you do get better, even though the treatment is worthless. The placebo effect is likely the main reason people believe in all sorts of wacky medical claims, from homeopathy to therapeutic touch.

The placebo effect can be quite powerful. Dr. Ben Krentzman,

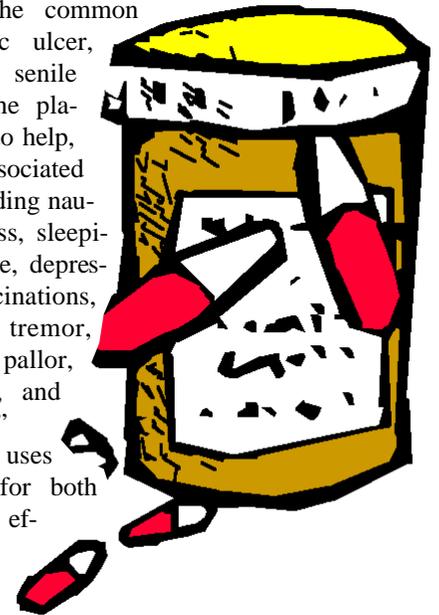
in his web page on placebos (<http://www.loop.com/~bkrentzman/meds/placebo.html>), notes: "The medical literature is replete with reports on the power of the placebo to help patients with anxiety, tension, melancholia, schizophrenia, pain of all sorts, headaches, cough, insomnia, seasickness, chronic bronchitis, the common cold, arthritis, peptic ulcer, hypertension, nausea, senile dementia, etc. But the placebo is not only able to help, it has also been associated with side effects including nausea headache, dizziness, sleepiness, insomnia, fatigue, depression, numbness, hallucinations, itching, vomiting, tremor, tachycardia, diarrhea, pallor, rashes, hives, ataxia, and edema, to name a few."

While Krentzman uses the term "placebo" for both positive and negative effects, "nocebo" is finding more use these days. As you might have guessed, the nocebo effect is the opposite of the placebo effect. In Latin, *nocebo*, which only showed up in English usage in the last decade (and, in fact, is not even recognized as a real word by my word processor's dictionary), means "I shall cause harm or be harmful." While the medical profession recognized a while ago that they needed to take into account the placebo effect, they have only recently recognized that they need to also take into account the nocebo effect.

("Nocebo Effect" continued on page 6)

In This Issue

The Straight Dope: The Nocebo Effect & Healing Prayer.....	1
The Twelve Alien Days of Christmas.....	3
REALLity Check.....	4



Purpose

The Rational Examination Association of Lincoln Land is a non-profit, tax-exempt 501(c)(3) educational and scientific organization. It is dedicated to the development of rational thinking and the application of the scientific method toward claims of the paranormal and fringe-science phenomena.

REALL shall conduct research, convene meetings, publish a newsletter, and disseminate information to its members and the general public. Its primary geographic region of coverage is central Illinois.

REALL subscribes to the premise that the scientific method is the most reliable and self-correcting system for obtaining knowledge about the world and universe. REALL does not reject paranormal claims on *a priori* grounds, but rather is committed to objective, though critical, inquiry.

The REALL News is its official newsletter.

Annual Membership Rates: Regular, \$20; student, \$15; family, \$30; patron, \$50 or more; subscription only, \$12.

Board of Directors

Chairman	David Bloomberg
Vice Chairman.....	Jim Rosenthal
Secretary-Treasurer	Bob Ladendorf
Newsletter Editor	Wally Hartshorn
At-Large Members.....	David McMaster Clark Olson Rich Walker

Editorial Board

Wally Hartshorn
David Bloomberg
Jim Rosenthal

Unless otherwise stated, permission is granted to other skeptic organizations to reprint articles from The REALL News as long as proper credit is given. REALL also requests that you send copies of your newsletters that reprint our articles to the above address.

A Nod to Our Patrons

REALL would like to thank our patron members. Through their extra generosity, REALL is able to continue to grow as a force for critical thinking in Central Illinois. To become a patron member of REALL, please use the membership form insert. Patron members are:

Karen Bartelt,
Washington
David Bloomberg,
Springfield
David Brown,
Danville
Alan Burge, D.D.S.,
Morton
Bill Hamm,
Bloomington
Charles Hanson,
Springfield
Wally Hartshorn,
Springfield
Bob Ladendorf,
Springfield

John Lockard, Jr.,
Urbana
William Loebach,
Streator
David McMaster,
Dawson
Bill Mellon,
Valparaiso, Indiana
James Rosenthal,
Springfield
Doug Smith,
Springfield
Richard Walker,
Springfield
Melanie Wojtulewicz,
Chicago

From the Chairman

David Bloomberg

First, let me note that there is **no December meeting.** We'll see you in January.

But our last meeting was an interesting one. It was a roundtable discussion and we talked about various subjects. Of course, the election that had taken place on that very day came up numerous times as we checked on the results with the mini-TV I'd brought. During the meeting, the media had given Florida to Gore. By the time we got home, they'd taken it away. Maybe by the time you get this newsletter, we'll actually know who got that state. Maybe.

But REALL isn't about politics; we're about science. To that end, I'm happy to announce that the National Center for Science Education has asked me to be an Illinois liaison for their group, and I accepted. I have also recommended that they contact a couple of other REALL members across the state to see if they are interested as well. For those of you who may not recognize the group's name, they are the main scientific promoters of evolution education, and fighters against creationism, in the country. So what does that mean for us? Well, for one thing it means that when we challenge the state board of education on their lack of the word "evolution" in science standards, I can speak not only as the chairman of a group in Illinois, but with the backing of a national scientific group as well (presuming, of course, that I okay it with them first – I can't go flying around willy-nilly or anything!). It gives us a more powerful voice in speaking out on this issue. And it means I should have even less free time than before.

Another announcement of interest to us is that the Committee for Scientific Investigation of Claims of the Paranormal (CSICOP) now has a liaison for interacting with the local groups (like us). Bela Scheiber, who founded and led the Rocky Mountain Skeptics for 18 years, will now act in this role to help local groups work together with each other and CSICOP. I look forward to this change and have already contacted Bela with some suggestions that Editor Wally and I cooked up.

Well-Known Skeptic Steve Allen dies at age 78

Just before our last meeting, well-known entertainer Steve Allen died at age 78.

Many articles discussed Allen's books, songs, performances, and the like. They also discussed his stand against excessive violence in movies and on TV. What most of them did not mention was his association with the skeptics movement.

Indeed, Allen received the "Distinguished Skeptic Award: For Lifetime Achievement" at the first World Skeptics Congress in 1996. He was the co-chairman of CSICOP's Council for Media Integrity. He led fundraising drives, spoke out whenever he could, and published books about thinking critically.

CSICOP's Paul Kurtz noted in a release: "Steve Allen had

(“Chairman” continued on page 7)

The Twelve Alien Days of Christmas

L. George Daniels

*On the first day of Christmas, an alien gave to me –
a crashed flying saucer and crew.*

*On the second day of Christmas, an alien gave to me –
Two men in black,
and a crashed flying saucer and crew.*

*On the third day of Christmas, an alien gave to me –
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the fourth day of Christmas, an alien gave to me –
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the fifth day of Christmas, an alien gave to me –
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the sixth day of Christmas, an alien gave to me –
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the seventh day of Christmas, an alien gave to me –
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the eighth day of Christmas, an alien gave to me –
Eight funny rashes,
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the ninth day of Christmas, an alien gave to me –
Nine hoaxers hoaxing,
Eight funny rashes,
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the tenth day of Christmas, an alien gave to me –
Ten men debunking,
Nine hoaxers hoaxing,
Eight funny rashes,
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the eleventh day of Christmas, an alien gave to me –
Eleven grays intruding,
Ten men debunking,
Nine hoaxers hoaxing,
Eight funny rashes,
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*

*On the twelfth day of Christmas, an alien gave to me –
Twelve hybrids mating,
Eleven grays intruding,
Ten men debunking,
Nine hoaxers hoaxing,
Eight funny rashes,
Seven books from Whitley,
Six cattle corpses,
FIVE MISSING HOURS.
Four motherships,
Three implants,
Two men in black,
and a crashed flying saucer and crew.*



Reprinted by permission of L. George Daniels
<www.truthwerks.com>. ☪

REALLity Check

by David Bloomberg

It's a Very Dangerous Thing, Part 4

Once again I find myself discussing South Africa's President **Thabo Mbeki** and his wonderful idea to bring AIDS deniers like **Peter Duesberg** into the discussion of what to do about the disease in his country. Hopefully, though, this will be the second-to-last time I have to mention it.

Nature (10/19) reports that Mbeki is withdrawing from the whole AIDS/HIV debate and leaving it up to his deputy president and other ministers. According to the journal, "Party insiders reported concern in the government that the controversy was creating a negative mood in the country and had led to disillusionment with the president. It has also divided the ANC and its allies."

Unfortunately, his health minister is the liaison with the AIDS panel Mbeki had set up to start this whole problem – and she has refused to state outright that she agrees with the scientific community about HIV causing AIDS. But the panel's draft report has been circulating and word is that nobody is really happy. The deniers say it doesn't support their position (aw, gee, what a terrible thing) and the others say it is not put together well enough to explain the debate.

In the "good news" department, the health minister has announced that they will be giving anti-HIV drugs to pregnant women in the country's most-infected area in order to help prevent mother-to-child infection.

Politicians Create What Scientists Cannot

Gulf War syndrome exists. Just ask the politicians.

Do they have some great scientific evidence that the rest of the world doesn't know about? No. In fact, in hearing after hearing, report after report, they still haven't pinned anything down. But that's not stopping them. According to *Nature* (10/19), a recent hearing featured Senators Arlen Specter and Kay Bailey Hutchison telling government officials that they should acknowledge "the clear common-sense evidence" for the syndrome.

Oh. Well. I guess that settles it then. I guess we should just ignore John Feussner, the Department of Veterans Affairs head of research, when he said, "The problem with declaring that there is a Gulf War syndrome is that the research suggests that there is not."

Hmm. So we can either listen to politicians or scientists? You can guess which way I'm leaning here. In fact, the whole thing reminds me of creationism: We "know" the answer, now go out and prove it, ignoring anything that contradicts our preconceived notions! As *Nature* said, Congress "should stop pressing scientists in effect to invent findings."

Promoting the Abnormal in Normal

I know that some local papers will publish press releases about meetings and speakers and the like. Heck, we certainly like to have our notices published in the *State Journal-Register* when we have speakers and the like. But sometimes, the press release and the news get a little too mixed up.

I think this was the case in a *Bloomington Pantagraph* article (9/7) about an "energy healer" speaking at a church in Normal. It wasn't just a case of running a press release to announce the speaker. Instead, the paper's health editor wrote a story about it.

The fact that this was written by the health editor implies that maybe a little bit of journalism should have gone into it. A quick look at this article shows that no real investigation seems to have taken place. For example, there is this excerpt: "Energy healers use touch to reduce stress and promote healing. Energy healers believe that people have energy fields and energy centers that can be disrupted with physical or emotional trauma. By laying hands on these energy centers, energy healers believe the areas can be charged with positive energy."

Again we see that a reporter thinks he can just insert the word "believe" in there and everything is A-OK. Well, it's not. When people see an article like this written by the health editor, they may actually think he knows what he's talking about. So when he doesn't even bother to mention the total lack of evidence for such things, he has done quite a disservice to his readers.

Thanks to **Bob Ladendorf** for alerting me to this one.

Dateline Not Quite Up to Par

Dateline NBC featured a rather long segment on "medium" **John Edward** (11/17). Edward, who has his own show on the Science Fiction Channel, is a **James Van Praagh**-like guy who says the dead talk to their friends and relatives through him. To skeptics, it looks an awful lot like cold reading, though.

Dateline has debunked psychics in a much better fashion before. A few years back they had segments on James Randi and a dowsing device. Two years ago they had a segment on "psychic detective" Dorothy Allison. In previous years, they also exposed fortune tellers a couple times. In fact, they have received REALL's annual "best expose" award on several occasions.

Unfortunately, this time was different. CSICOP's **Joe Nickell** represented the skeptical side and did a pretty good job in that role. He was given a fairly good amount of time (unlike most shows that give skeptics 30 seconds to rebut 30 minutes of pro-believer nonsense), but the problem is that people watching this are just not going to believe his rational statements when they see John Edwards making "hits" – no matter how well explained they are. A good counter would have been to have a skeptic who is also a cold reader giving similar read-

ings to a similar group to show how one does not need psychic powers to get the hits that Edwards gets. For example, those of us who have seen friend-of-REALL **Bruce Walstad** in action when giving his cold readings, or when we saw **Derek Rompot** give his tarot readings for one of our meetings a couple years ago, know how easy it is to appear to get “hits” when no psychic power is involved. Most people watching would not be aware of this, and no amount of rational explanation is going to get it through to them.

Cancer Calling?

Over the past few years, questions have now and then popped up in the media over whether cell phones cause cancer. These claims seem all too familiar and look like the breast implant cases and power line scares we’ve seen. Unlike some media outlets that tend to play up such scares, *U.S. News & World Report* says we shouldn’t get “hung up on it” (8/28).

The article starts on a similar theme to one I we have seen – people who get cancer often want to know what “caused” it. Lately, they’ve been looking to cell phones, including one man suing for \$800 million, claiming that his brain cancer was caused by his cell phone. The authors of the article, however, cite other evidence and basically say it’s not something we should spend our time worrying about.

They note: “Quit worrying. Scientists familiar with the research—even some of those responsible for the disturbing findings—generally say users can rest easy. Dozens of studies have shown few signs of a risk. Of the two or three studies at the root of the alarm, scientists either have not been able to duplicate them—suggesting they could be statistical flukes—or don’t know how the findings apply to actual cell phone users.”

Indeed, a 1999 letter to the *Journal of the American Medical Association* noted, “The only category of cause of death for which there was an indication of increasing risk with increasing minutes of use was motor vehicle collision.” And we don’t need to bring in electrical fields and the like to figure that correlation.

Dr. Dean Edell, in his recent book, *Eat, Drink, & Be Merry*, mentions how the media often plays up the small studies that claim to show some danger, and that seems to be the case here. A few show that something *might* be going on, so they get media play. The majority that show nothing, or follow-ups of the original scary studies that end up showing nothing, don’t get media play. So most people only hear about the scary ones.

Not So Healthy, the Continuing Saga

An article in the *Seattle Times* (11/19) discusses a number of cases coming into emergency rooms involving supposedly safe herbal remedies. As we’ve seen in other news items over the past year or more, many of these remedies or supplements can interact with medicines or cause damage on their own.

This particular article discussed a girl who had tried an herbal tea containing pennyroyal and ended up suffering kid-

ney failure – almost needing a transplant. A woman who had been taking ginkgo biloba to supposedly enhance memory came in with “bleeding inside her head” linked to the use of that herb. A somewhat more amusing (for us, though likely not for him) case involved a man with “an erection that would not subside” likely caused by excessive yohimbe use. On the down side, he also had a headache (and chest pain and heart palpitations).

As we’ve seen before, the article notes that “people most often ran into trouble because they overused the remedy, a product was not labeled properly, or an herbal substance interacted with another medication.”

In related news, HealthCentral reported on the dangers of ephedra (ma huang) in weight loss supplements (11/6). In fact, the results of a recent study were felt to be so important that although they weren’t originally scheduled to be released until a December journal article, they are making the information known now. An excerpt from the article notes: “Our main concern are risks that include heart attack, severe high blood pressure and sudden death,” said lead investigator Dr. Neal L. Benowitz of the University of California, San Francisco.

Other possible side effects include stroke, seizure and nervous system effects, such as increased anxiety.”

The supplement supporters have been fighting with the FDA on this for quite a while, and are still refusing to accept these independent results.

And while we’re past the allergy season for this year, tell me if this makes sense to you:

You’ve got this allergy and you’re one of those folks who think that “natural” means good. So you take echinacea because it’s supposed to be good for colds and sniffles and stuff, right?

Wrong! Echinacea is closely related to ragweed, which is a common trigger for those allergies of yours. Whoops!

According to an MSNBC article on allergy sufferers turning to supplements (11/4), this situation may become more common if people don’t pay more attention to what they’re taking. As one doctor said: “Some of these people have inhalant allergies to grasses and weeds yet they’re taking herbal substances – that doesn’t make sense.”

She further noted: “Many people take alternative medicines because they think they’re safe and natural but people with allergies or allergic asthma could be potentially made worse. Some of these substances can cause hives or toxicity. And highly allergic people can have serious reactions.”

It gets worse. She also noted that mold spores sometimes contaminate the herbs, causing additional side effects. And some contain all sorts of things that could cause allergies and are not listed on the label. Yet in one Canadian study, many patients who chose alternative medicine like supplements were doing so to avoid side effects! What they don’t realize is that they aren’t avoiding them; they are just buying something that isn’t regulated well enough so they are forced to list them like real medicines. ☹



(“Nocebo Effect” continued from page 1)

Like the placebo effect, the nocebo effect is usually generated by “beliefs, attitudes and cultural factors” (<http://quinion.com/words/turnsofphrase/tp-noc1.htm>). This occurs when the expectation of deterioration is created. For an extreme example, the July 1997 *Harvard Mental Health Letter* notes that the nocebo effect has been credited with causing “so-called voodoo deaths.” In other words, people who truly believe in voodoo and believe they have been cursed by a voodoo practitioner may be so affected by the nocebo effect that they actually get sick and die. The article further notes: “For surgical patients, the expectation of death on the operating table can be fatal. In one study of people with asthma, deliberate misinformation about the effects of medication reduced its effectiveness by nearly 50%. Also, allergic reactions can be induced merely by telling the patient that they are receiving a substance to which they are allergic, when in fact they are receiving salt water.”

The evidence on zinc lozenges is still a bit sketchy. Some experiments make it seem they do something, others don't. The FTC stepped in recently and made the main manufacturer stop making claims they couldn't back up. Like you, I'm skeptical that they do anything.

If they do nothing and their effect is completely attributable to the placebo effect, and you don't believe they do anything but take them anyway, you probably won't see the same effect as those who believe. That said, John Dodes notes, in his *Skeptical Inquirer* article, “The Mysterious Placebo” (Jan./Feb. 1997, <http://www.csicop.org/si/9701/placebo.html>), “Belief in the treatment only appears to explain a portion of the placebo effect. It appears that belief, operant conditioning, and suggestibility all play important roles.” So it is possible that, even if you don't believe, the placebo effect may still have some impact. And, let's face it, somebody who has absolutely no doubts probably won't waste the money to take these things, which don't exactly taste great. So it's likely that even if somebody is a bit skeptical, there may be a flicker of hope that triggers the placebo effect.

If the lozenges really do have medical benefits, we still need to consider the nocebo effect. As Robert and Michele Root-Bernstein noted in *Honey, Mud, Maggots and Other Medical Marvels*: “Research has also shown that the nocebo effect can reverse the body's response to true medical treatment from positive to negative.” So if they actually work and you don't think they do, their effect may be reduced – they may live down to your expectations.

Perhaps the most interesting thing that links it all together came from Michael Fumento, in his January 19, 1996, *Chicago Tribune* article, “How the Media and Lawyers Stir Up False Illness,” where he noted: “For example, if someone in your office is suffering from a cold you, too, may feel your throat tightening, your bones aching a bit, your head hurting perhaps.” So the nocebo effect may actually be one reason the placebo effect helps zinc lozenges seem to work! According to the label, you are supposed to “begin treatment at first sign of cold.” Well, if the first sign of the cold is really a nocebo effect because you've been around sick people, then you are merely countering nocebo with placebo, and you think you've just

taken a great medicine that cured your non-existent cold!

All in all, I'll wait for some nice double-blind studies to show that zinc lozenges prevent and/or cure colds. Until then, I think the following anonymous quote sums it up: “A treated cold will last a week. Left untreated, it will last seven days.” Barring the placebo and nocebo effects, of course.

Dear Straight Dope:

There's been a lot of talk in the Christian community of late about studies being done that show the effectiveness of prayer on those who are sick. What's the straight dope on this? – CAT

This subject has seen more than its fair share of press in recent months. As with so many things, the hype about prayer definitely outshines the reality. To date there has not been a single good study showing that prayer has any value for helping sick people. A couple studies *appeared* to show such an effect, if you believe the media accounts, but I'll get to that in a little bit.

First, let's clarify what we're talking about. Some studies have shown that people who pray on their own behalf or know they are being prayed for show an improvement in their health. However, because of the placebo effect, these results don't prove anything about the power of prayer as such.

The first two authors of a *Skeptical* magazine article (“God's HMO: Prayer, Faith, Belief & Physical Well-Being,” by William J. Matthews, Jim Conti, and Theodore Christ, vol. 8, no. 2) recently conducted a study on this very point. They got a group of sick volunteers to choose to receive either intercessory prayer (prayer on behalf of another person) or non-religious “positive visualization.” However, only one-third of each group actually got what they asked for, with the other third getting the other method, and the final third getting neither. Unsurprisingly to those who have seen the placebo effect in action (for example, see the question and answer above), those who expected intercessory prayer felt better than those who asked for the visualization, no matter what they actually got.

To prove that prayer really works, we need a properly-conducted double-blind study (i.e., neither the subjects nor the test administrators know who's getting the treatment and who's getting a placebo), just as it would be for any other claimed treatment. Otherwise, if the sick person believes the prayer will help, it may, just as a sugar pill may help if a doctor tells a patient it contains powerful medicine.

So, we need to find a way to study prayer without the people being prayed for knowing about it. Results of a study like this were published in 1988 by Randolph Byrd. While proponents have claimed it is a “landmark study” proving the effectiveness of prayer, others have found significant problems (for example, Irwin Tesson and Jack Tesson in “Efficacy of Prayer: A Critical Examination of Claims,” *Skeptical Inquirer*, March/April 2000). Specifically, while the test was supposed to be double-blind and the article describing it claimed it was, a number of investigators have found that this was not true. Byrd himself determined who did better, those who were prayed for or those who were not, and he determined it after he knew who was in which group. Furthermore, the coordinator of the study

was not blinded. Double-blind studies are done so those running the experiments don't accidentally contaminate the results with their own viewpoints. The failure to properly blind this study calls the results into serious question.

Matthews, Conti, and Christ further point out that there was no difference between those who were prayed for and those in the control group in terms of objective measures such as length of stay in intensive care, stay in the hospital overall, or number of medications that were necessary at discharge. Indeed, as pointed out by Gary Posner, M.D. (*Free Inquiry* magazine, Spring 1990, available at www.hcrc.org/contrib/posner/byrd.html), the length was unaffected even though there were specific prayers for a rapid recovery. Furthermore, there was no effect seen on mortality, despite prayers "for prevention of ... death."

So what was the basis of the claim that prayer was effective? The study looked at a large number of criteria or "variables"—for example, how the subjects compared in terms of rates of congestive heart failure, cardiopulmonary arrest, pneumonia, etc. With so many different comparisons to choose from, it's not surprising that a few were found to show differences, especially when there was no prediction ahead of time as to which ones should be different or for what reasons. These differences are likely the result of chance.

The most recent study—the one you probably heard about—was done by W.S. Harris et al. and published in a recent issue of *Annals of Internal Medicine*. It was somewhat based on the Byrd study and received plenty of press, but many people have pointed out problems with this study as well. For example, Tessman and Tessman, as noted above, point out that of the three criteria measured, only one showed any apparent significance, and even that one was questionable. The Harris study looked at speed of recovery, adverse condition scores, and overall outcome. Speed of recovery and overall outcome showed essentially no effect, while the adverse condition scores showed a small advantage at the boundary of what would be considered chance results. Looking at the study as a whole, the Tessmans comment that one borderline positive result out of three criteria studied "is well explained by pure chance."

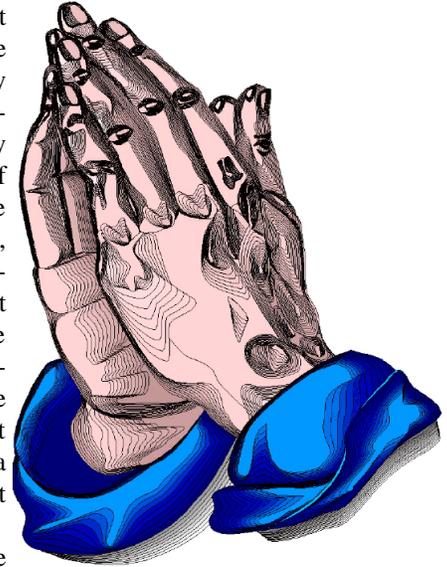
Matthews, Conti, and Christ also address flaws in prayer studies, pointing to an article that appeared in the February 20, 1999, issue of *The Lancet*. They note that confounding variables such as age, sex, socioeconomic status, etc., weren't taken into account, making it impossible to be sure you're comparing apples to apples. Similarly, the studies didn't control for multiple comparisons, which could cause errors like the ones mentioned in the Byrd and Harris studies. When you look at multiple criteria without predicting ahead of time which should change and why, you may find something caused by chance alone.

Of course, there is a question whether a true test of prayer is even possible. As Eric Stockton pointed out in a letter to the editor of *Skeptical Inquirer* (July/August 2000), if prayer works because of God's intervention, and God is the omniscient deity of Christianity (or most any major religion), then He knows He is being tested. As such, He could accept or reject whatever prayer is offered, and either choose to give or not

give evidence that it works. It would be impossible to properly blind such an experiment if it's the deity we're talking about. If it is supposed to be the prayer itself that heals, rather than God intervening, then we don't have that issue, but we instead have to wonder how it might be that such prayer might work—if we ever get a decent study that shows it does, that is.

Other issues we may have to deal with: Are Jewish or Muslim prayers as effective as Christian ones? Within Christianity, are Catholic prayers better than Protestant ones? (The Harris study only used Christians, and did not take into account the different branches within Christianity.) Nobody would ever design a study that just asked, "Are drugs better than no drugs?" Which drugs? In what doses? The same questions could reasonably be asked about prayer, if we were to assume that some form of prayer actually works.

In summary, we have no good evidence of the effectiveness of intercessory prayer in which the person does not know he is being prayed for. Those who believe prayer will help them and know they are being prayed for may indeed get better, thanks to the placebo effect. The same could be said of giving pets to the elderly who like animals (which research has shown is related to both physical and psychological improvement). However, as Matthews, Conti, and Christ note, "if a patient did not like cats, for example, it would seem inadvisable to put one on an elderly lap." Similarly, "the current research does not suggest that atheists facing heart surgery should be told by their physicians to start praying." ♣



(*"Chairman"* continued from page 2)

a serious side that has been largely overlooked in the many commentaries and obituaries following his death. He was a man deeply interested in ideas, and he stands out as one of the few intellectuals who could survive in the mass media – he occupied a paradoxical position, for show business is too often fixated on the glitz and glamour of the passing parade of celebrities. Although Steve Allen was highly regarded by the entertainment industry for his many creative attainments as a performer, he was possessed of a keen inquiring mind and deep humanitarian impulses."

The world – and especially skeptics – lost a good man. ♣

Our Next Meeting

⇒ *Cancelled!* ⇐

Our December meeting has been cancelled due to lack of any remaining gullibility in the world. Much to our surprise, the ratings for all pro-paranormal television shows have dropped through the floor, and psychics all over the country have gone out of business due to lack of customers.

And if you believe that, you're probably not a skeptic. In actuality, we have no speaker for December, and we just recently had a round-table discussion, so there will be no meeting in December. **We'll see you new millennium!**

www.reall.org

Springfield, Illinois
Lincoln Library (7th & Capitol)
Tuesday, January 2, 7:00 PM

Free and Open
to the Public

Rational Examination Association
of Lincoln Land (REALL)
P.O. Box 20302
Springfield IL 62708

