



**Mel says, “This is swell! But it’s not ideal—it’s a free, grainy PDF.”**

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ANNALS OF

# IMPROBABLE RESEARCH



Special  
Issue:

## Anti-Terrorism



**Bombshell Research Review,  
Cingulate Uber Alles  
ALSO: April in Paris...**



MAY | JUNE 2008 (volume 14, number 3) \$6.50 US | \$9.50 CAN

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*The journal of record for inflated research and personalities*

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“When all other contingencies fail, whatever remains, however improbable, must be the truth.”—*Sherlock Holmes*

“Science is the belief in the ignorance of experts.”—*Richard Feynman*

# Smells of Happiness, and of Fear

*Items that merit a trip to the library*

*compiled by Alice Shirrell Kaswell, Improbable Research staff*

Denise Chen, Assistant Professor of Psychology at Rice University in Houston, Texas, has, she says, “showed that when given a choice, people can identify emotions based on sweat collected from different emotional states.” Together with colleague Jeannette Haviland-Jones of Rutgers University she produced an arousing study:

“Rapid Mood Change and Human Odors,” Denise Chen and Jeannette Haviland-Jones, *Physiology and Behavior*, vol. 68, nos. 1-2, December 1, 1999, pp. 241-50. (*Thanks to Enzo Festa for bringing this to our attention.*) The authors report:

We demonstrate an immediate effect of airborne chemicals on human moods. We collected six groups of underarm odors, respectively, from five prepubertal girls, five prepubertal boys, five college women, five college men, five older women, and five older men.... [O]dor observers assessed their depressive, hostile, and positive moods twice, once before and once a few minutes after they sniffed one of the above seven groups of odors. Exposure to underarm odors for under 2 min led to significant, rapid, and small changes in the nonclinical depressive mood of the odor observers.... Odors perceived as unpleasant and intense were as likely to relieve a depressive mood as were pleasant odors.

## Rapid mood change and human odors

Denise Chen<sup>1</sup> and Jeannette Haviland-Jones

<sup>1</sup>Rice University

Received 29 May 1998; revised manuscript 22 March 1999; accepted 7 July 1999

**Abstract**

We demonstrate an immediate effect of airborne chemicals on human moods. We collected six groups of underarm odors, respectively, from five prepubertal girls, five prepubertal boys, five college women, five college men, five older women, and five older men. In addition, we collected odors from seven of these classes, making them a seventh group of odors. These females and eight other observers

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The features marked with a star (\*) are based entirely on material taken straight from standard research (and other Official and Therefore Always Correct) literature. Many of the other articles are genuine, too, but we don't know which ones.



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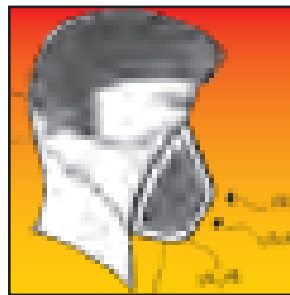
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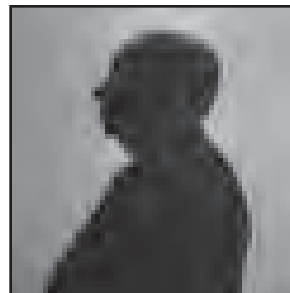
## On the Front Cover



A mask to be used in case of terrorist attack or other emergency. The mask, described in U.S. patent #2033357 (granted in 2007) converts from a two-cup brassiere. The brassiere's other cup is used as a mask to be given to any bystander who is in need of protection.

For details see "Plucked from Obscurity: Anti-Terrorism Mask" on page 6 of this issue.

## On the Back Cover



A strawberry, found in Salem, Massachusetts, that resembles the profile of film director Alfred Hitchcock. Photo: Jesse Eppers.

## Coming Events

(see [WWW.IMPROBABLE.COM](http://WWW.IMPROBABLE.COM) for details of these and other events)

- ASMS Conference, Denver—June 1, 2008
- Cheltenham Science Festival, UK—June 7, 2008
- Alpbach, Austria—August, 2008
- Ig Nobel Prize Ceremony—October 2, 2008
- Ig Informal Lectures—October 4, 2008

# AIR Vents

*Exhalations from our readers*



*NOTE: The opinions expressed here represent the opinions of the authors and do not necessarily represent the opinions of those who hold other opinions.*

## For Want of a Nail, Continued

Thank you to Professor Emily Durgan (who sent me the head of a nail) and to everybody else who sent in letters to help me identify the metal used in the nails used to make the ladder used by the bearded gentleman in the middle of the photograph shown in *AIR Vents* 14:2. Now I know, thanks to you and to further research of my own, that the ladder had no nails and that that is why it fell apart at a crucial time, resulting in



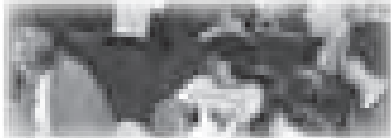
*Tommy ("Thomas") Tompkins Metallurgist, ret. Missouri, USA*

lifelong embarrassment to the gentleman and then to the lady in the photograph. Here is a photograph of the result of their embarrassment, their purported son, Judson F. Goeing, standing on an improved ladder; his ladder uses a curious fastening, as does Judson Goeing.

My further research shows that Judson Goeing himself had a curious history. He spelled his name with and without an "e." He was a scholar and a gentleman, and at other times a dunce and a cad. I found a mention of him on page 82 of the Illinois University Board of Trustees Proceedings of 1892. The other photograph here—sorry about the small size!—shows it clearly.

## Constant Admirer

My colleague Anneke Valeros's letter (*AIR Vents* 14:2) about my letter (*AIR Vents* 13:7) about Valeros's attitude toward hydrophilic molecules claims that she has not revised her view of detergent chemistry. She quotes her role model, Richard Dawkins, and says, "Like many scientists, I am delighted to acknowledge occasions when I have changed my mind, but this is not one of them."



Piffle. I repeat here what I have repeated elsewhere many times. Valeros *did* shift her opinion. I can only repeat (quoting Valeros quoting me quoting Richard Dawkins, who was my role model before he was Anneke Valeros's role model): "Like many scientists, I am delighted to acknowledge occasions when I have changed my mind, but this is not one of them."

*Burlei Rimsz, Ph.D. Kalamata, Greece*

## Sonnet Scam?

Having spent the past several months composing scientific sonnets for the symposium described in the accompanying flyer, I have recently begun to suspect that the event may in fact not exist. I have repeatedly attempted to contact the conference chairman regarding the status of my two submissions, "Ode to Entropy" and "In Memoriam: Cold Fusion," and the only responses I have received were from a man named Abuja Ouagadougou. He is, he says, the conference treasurer as well as the heir of Nigeria's deposed strongman, King Accra. Mr. Ouagadougou insists I immediately pay the registration fee via direct

deposit, which requires I supply him with my bank account information and Social Security number. As you can imagine, I am starting to question the authenticity of this supposed Sixth Annual Scientific Sonnet Symposium. Thus, as a service to the scientific community, I feel obligated to bring attention to this possible hoax.

*Jeffrey Jargon Broomfield, Colorado, USA*

P.S. Kudos to Mr. Burriss J. Fisk for his letter, "Jargon Appreciator, Yet Again" (*AIR Vents* 14:1). Being a scientist with the supposedly funny-sounding surname of Jargon, I completely understand how difficult it is to be taken seriously.

## IRRI SIXTH ANNUAL SCIENTIFIC SONNET SYMPOSIUM



October 23-26, 2008  
Stratford-upon-Avon  
Warwickshire, England



**Conference Chair**  
Dr. Jeffrey Chaucer

**Technical Program**  
Prof. Bob Frost

**Publications**  
Dr. Sam Coleridge

**Interactive Forum**  
Prof. Edward Poe

**Operations**  
Dr. Bill Blake

**Finance**  
Mr. Lou Carroll

**Local Arrangements**  
Dr. Liz Browning

**Publicity**  
Mr. "Big Al" Tennyson

**Awards**  
Dr. Tom Hardy

**Guest Program**  
Mr. Rudy Kipling

### Call for Poetry

The International Rhyme and Reason Institute (IRRI) will hold its Sixth Annual Scientific Sonnet Symposium in Stratford-upon-Avon on Oct. 23-26, 2008. Technical poems describing original work in any scientific field are solicited. Free verse is strictly prohibited. Topics of interest include but are not limited to:

- Determining the half-life of iso-tropes.
- Potential cures for alliteration deficit disorder.
- Poetic analysis using scansion electron microscopy.
- Quantum quatrains detectors: theory and applications.
- Strain gauges for measuring stressed syllables.
- Frontiers in cloning – human couplets.

We are pleased to announce that this year's keynote speaker will be none other than the highly-acclaimed Dr. William Pinch, five-time award winner of the coveted iambic pentathlon. He will be reading from his worldwide bestseller, "The Comedy of Error Analysis."

### Electronic Submission Deadlines

Abstracts in Haiku Form—Aug. 1, 2008  
Final Manuscripts in Sonnet Form—Sep. 1, 2008

Email All Submissions to [submissions@irri.org](mailto:submissions@irri.org)



## Mel near Notre Dame

I have doubts about the authenticity of some of the photographs purporting to prove that Mel visited this or that institution. Here is one that is beyond questioning, though. It shows Mel during his visit to Notre Dame in 1909. The inscription on the back is signed by three Paris gendarmes who escorted Mel on that famous day. All three of these men are visible in the photograph. The pen marks were emplaced by the senior gendarme, whom you can see here standing prominently on the bridge.

*Robert Couvert, Head Archivist  
Notre Dame Scientific Club Archives  
Paris France*

## A Little Disagreement

As has been pointed out in the past, by me, it is astonishing that the fact that Mel's picture in the pages of *AIR* is small continues to be confused with the idea of Mel himself being small, as reflected in the reappearing reference to him as a "little man".

*Professor William A. Hyman  
Department of Biomedical Engineering  
Texas A&M University  
College Station, TX*

## Foot on Physics, Continued

Several readers clearly misunderstood my letter (*AIR* Vents 13:7) which was headlined "Foot on Physics." Permit me to reply to them.

No, Professor Dykstra, I did not mean that I have my "foot on physics" the way some people claim to have their "finger on the pulse of physics." No, Ms. Lee, I did not mean that I am advocating some kind of calisthenics program, let alone that I am the owner of a chain of gyms or yoga studios or Pilates workshops that features physics principles and an emphasis on the feet and perhaps ankles—I am none of those.

No. What I meant, of course, is that I am the proud owner of 43 copies of the book *Atomic Physics*, by C.J. Foot. And I

have purchased many more copies that I have subsequently given as gifts. The book was published by Oxford University Press in 2005. At least, that is the edition I care about. C.J. Foot is a Professor of Physics at the University of Oxford. No, Dr. Benton, Dr. Abu, Ms. Roche, Professor Blaine and you others, I was not making jokes about Professor Foot's foot. I know nothing about Professor Foot's foot.

I was merely expressing my admiration for the man's book. I never miss a chance to purchase another copy when, in my wanderings, I happen upon one at a store. I suggest you all do the same. You will be the better for it.

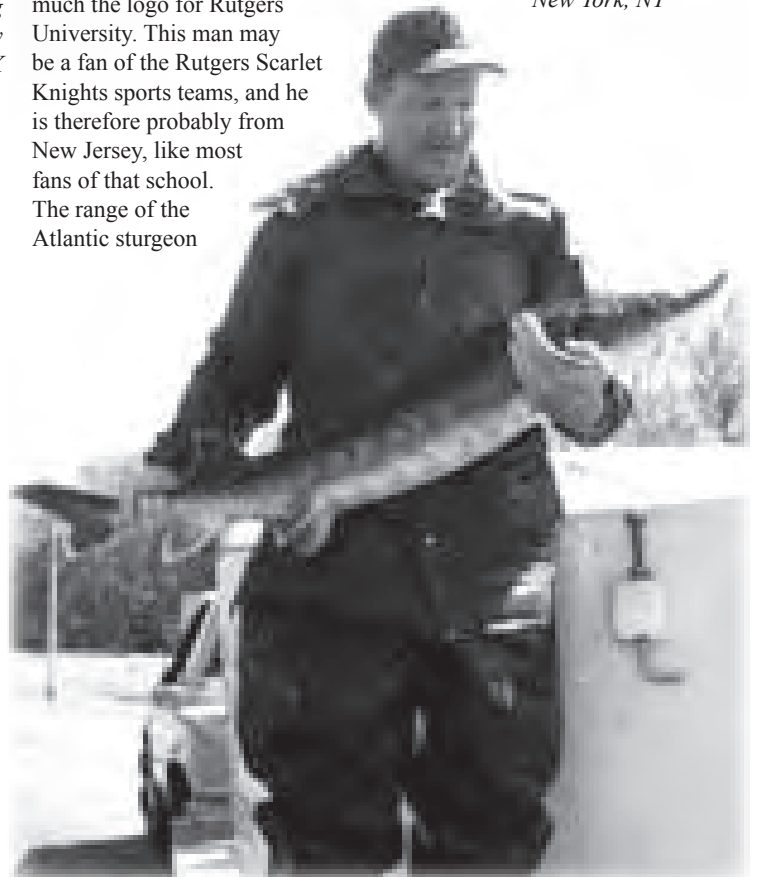
*Fintan Arbogast  
Nantes, Quebec, Canada*

## Chakrabarty, Fish Photo Detective

The sturgeon the man is holding in the photograph sent in by Dr. Grossi (*AIR* Vents 13:6) is a juvenile of either *Acipenser fulvescens*, the lake sturgeon, or *Acipenser oxyrinchus*, the Atlantic sturgeon. (I am leaning toward the latter.) I am fairly certain of this identification based on the color of the scutes relative to the skin, shape of the snout, and relative position of the dorsal and anal fins. I cannot tell you much about the identification of the man. He appears to be wearing a cap with an "R" embroidered on it; this resembles very much the logo for Rutgers University. This man may be a fan of the Rutgers Scarlet Knights sports teams, and he is therefore probably from New Jersey, like most fans of that school. The range of the Atlantic sturgeon

happens to include New Jersey. The U.S. Dept. of State may be looking for information on this man because sturgeon fishing is prohibited in New Jersey. Unfortunately the street sign in the background of the photograph is obscured by the tail of the fish and the lettering on the side of the trailer is obscured by the man's waders. Good luck with the remainder of your investigation.

*Prosanta Chakrabarty, Ph.D.  
Postdoctoral Fellow  
Department of Ichthyology  
American Museum  
of Natural History  
New York, NY*



# Improbable Research Review

*Improbable theories, experiments, and conclusions*

compiled by Dirk Manley, Improbable Research staff

## How Fleet the Feet of the Pachyderm?

“Biomechanics: Are Fast-Moving Elephants Really Running?”

J.R. Hutchinson, D. Famini, R. Lair and R. Kram, *Nature*, vol. 422, no. 6931, April 3, 2003, pp. 493–4. (Thanks to Jürgen Linder and Jost Weber for bringing this to our attention.)

The authors, who are at various institutions in Thailand and the U.S., explain that:

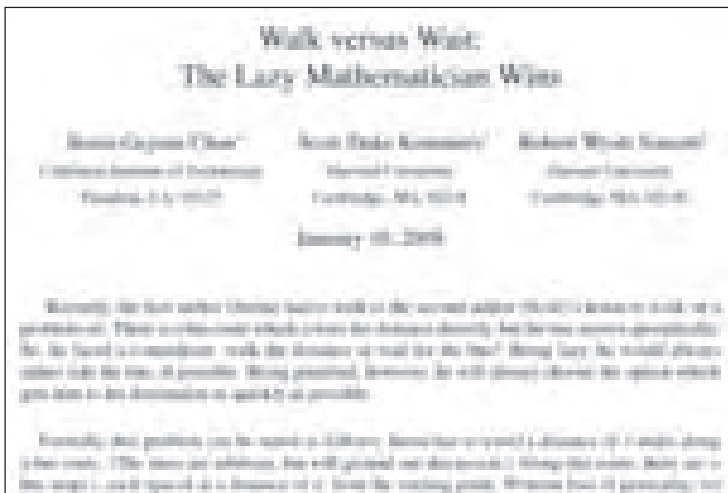
Usually, the various criteria for walking and running are consistent, making it relatively easy to distinguish walking from running, but this is not true in the case of elephants. Our observations suggest that, at greater speeds, elephants do more than merely walk.

## Are fast-moving elephants really running?



## Tales of the Rather Unexpected: Exotic-Fed Food

“Microprobe Analysis of Brine Shrimp Grown on Meteorite Extracts,” J. Kennedy, M.N. Mautner, B. Barry and A. Markwitz, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, vol. 260, no. 1, July 2007, pp. 184–9. (Thanks to Tom Gill for bringing this to our attention.)



## Acid Blob Activation

“Transcriptional Activation: Acid Blobs and Negative Noodles,” P.B. Sigler, *Nature*, vol. 333, no. 6170, May 19, 1988, pp. 210–2. (Thanks to Amy and Jim Desmond for bringing this to our attention.)

## Waiting for the Bus

“Walk versus Wait: The Lazy Mathematician Wins,” Justin G. Chen, Scott D. Kominers and Robert W. Sinnott, arXiv:0801.0297v2, January 10, 2008. (Thanks to Pamela Yinn for bringing this to our attention.) The authors, who are variously at Caltech and at Harvard University, explain:

[We] address a simple, yet instructive question: Justin has to travel a distance of  $d$  miles along a bus route. Along this route, there are  $n$  bus stops  $i$ , each spaced at a distance of  $d_i$  from the starting point. At each bus stop, Justin is faced with a choice: to walk or to wait. If he walks on, he can still catch a bus at the next bus stop—but if a bus passes him while he walks, he is almost assured a longer wait. We model Justin’s decision constraint and completely solve the model in a special case. The answer is intuitive: the optimal strategy is the laziest.

# Improbable Medical Review

*Improbable diagnoses, techniques, and research*

compiled by Bertha Vanatian, Improbable Research staff

## The Relative Price of Nothing

“Commercial Features of Placebo and Therapeutic Efficacy,” Rebecca L. Waber, Baba Shiv, Ziv Carmon and Dan Ariely, *Journal of the American Medical Association*, vol. 299, March 5, 2008, pp. 1016–7. (Thanks to Mark Dionne for bringing this to our attention.) The authors, who variously are at Massachusetts Institute of Technology, Stanford University, Duke University, and INSEAD (Singapore), report:

we studied the effect of price on analgesic response to placebo pills.... After randomization, half of the participants were informed that the drug had a regular price of \$2.50 per pill and half that the price had been discounted to \$0.10 per pill (no reason for the discount was mentioned). All participants received identical placebo pills... pain reduction was greater for the regular-price pill.

## Cherry Pitter’s Thumb

“Cherry Pitter’s Thumb: Case Report and Review of the Literature,” S.F. Viegas and F.G. Torres, *Orthopaedic Review*, vol. 18, no. 3, March 1989, pp. 336–8.



## Bad Breath: Big Breadth

“Halitosis Among Racially Diverse Populations: An Update,” S Rayman and K Almas, *International Journal of Dental Hygiene*, vol. 6, no. 1, February 1, 2008, pp. 2–7. (Thanks to Kristine Danowski for bringing this to our attention.)

The authors, at Eugenio

Maria De Hostos Community College of The City University of New York, report:

Halitosis (oral malodour or bad breath) is caused mainly by tongue coating and periodontal disease.... The paper reviews the prevalence and distribution of halitosis, oral malodour, its aetiology, concepts of general and oral health and diseases and their perception among racially diverse population... The perception of halitosis is different in culturally diverse populations.

## RESEARCH LETTER

### Commercial Features of Placebo and Therapeutic Efficacy

To the Editor: It is possible that the therapeutic efficacy of medications is affected by commercial features such as lower prices. Because such features influence patients' expectations,<sup>1</sup> they may play an unrecognized therapeutic role by influencing the efficacy of medical therapies, especially in conditions associated with strong placebo responses.<sup>2,3</sup> To investigate this possibility, we studied the effect of price on analgesic response to placebo pills.

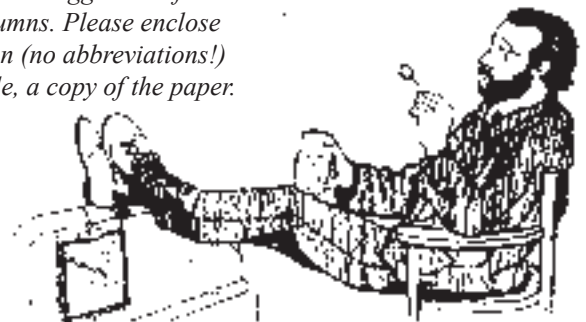
**Methods.** In 2008 we recruited 82 healthy adult volunteers (18 women, 64 men), using an online advertisement. Each participant was informed by brochure about a (prospected) new special analgesic approved by the Food and Drug Administration.

## Glove Juice of Surgeons

“Comparison of Bacterial Counts in Glove Juice of Surgeons Wearing Smooth Band Rings Versus Those Without Rings,” T.R. Waterman, D.D. Smeak, J. Kowalski and E.M. Hade, *American Journal of Infection Control*, vol. 34, no. 7, September 2006, pp. 421–5 (<http://dx.doi.org/10.1016/j.ajic.2005.11.007>). The authors, at Ohio State University, report:

**RESULTS:** No differences, or significant change, in bacterial counts were found before or after surgery between all ring hands and nonring hands or between ring and nonring hands for ringed participants. No differences in bacterial counts were found within perforated versus nonperforated gloves. **CONCLUSION:** There is no compelling evidence to suggest that surgeons wearing rings possess higher bacterial counts under their gloves during surgery.

We welcome your suggestions for this and other columns. Please enclose the full citation (no abbreviations!) and, if possible, a copy of the paper.



# Plucked from Obscurity: Anti-Terrorism Mask

*Inventive, yet under-publicized devices*

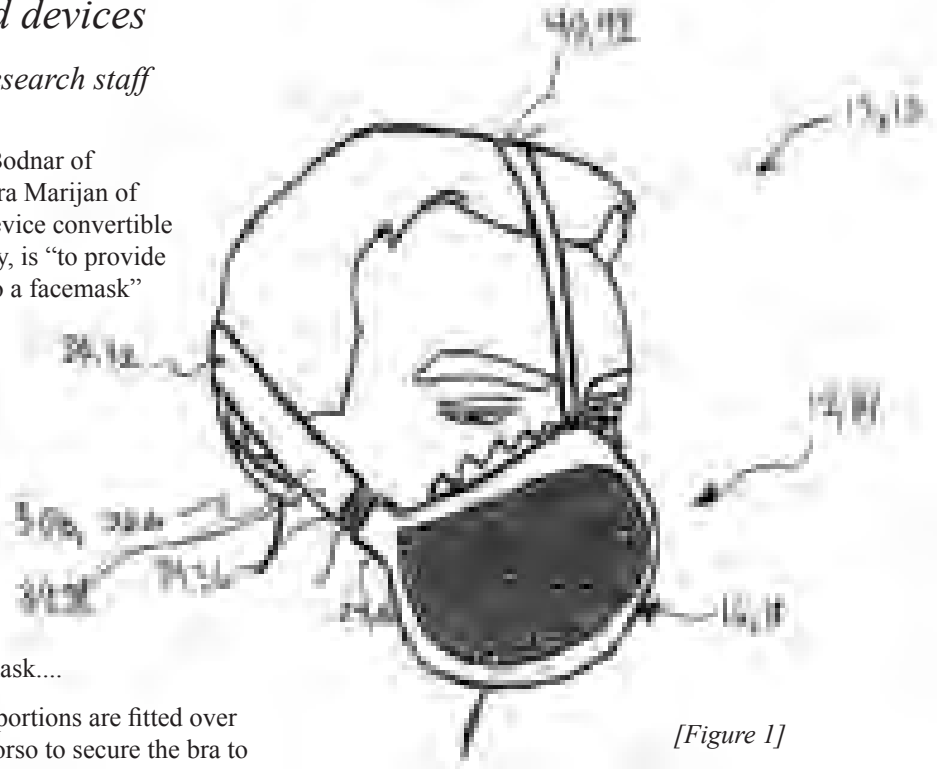
*by Marina Tsipis, Improbable Research staff*

U.S. patent #2033357 was granted to Elena N. Bodnar of Hinsdale, Illinois, and Raphael C. Lee and Sandra Marijan of Chicago on August 14, 2007 for an “Garment device convertible to one or more facemasks.” Their intent, they say, is “to provide a garment which is operable to be converted into a facemask” and “to increase accessibility to facemasks.”

This is:

a garment device which converts into one or more facemasks. In one embodiment, the garment device is a bra or a brassiere garment. The bra has two cups.... The inner portions of the cups are disconnectable, and the outer portions of the cups are disconnectable. As such, the bra is separable into two halves. Each half is securable to a user’s face to form a facemask....

When the garment is used as a bra, the cup portions are fitted over the breasts and the straps wrap around the torso to secure the bra to the body. When both of the fasteners are released, the garment device converts into two facemasks, each facemask including a cup and the straps. The user of the facemask places the cup or the mask chamber over the mouth-nose region or mouth-nose-chin region and wraps the straps around his or her head. The user can then use the facemask to help purify the inhaled air while keeping his or her hands free. Furthermore, the user can provide the other facemask to a bystander.

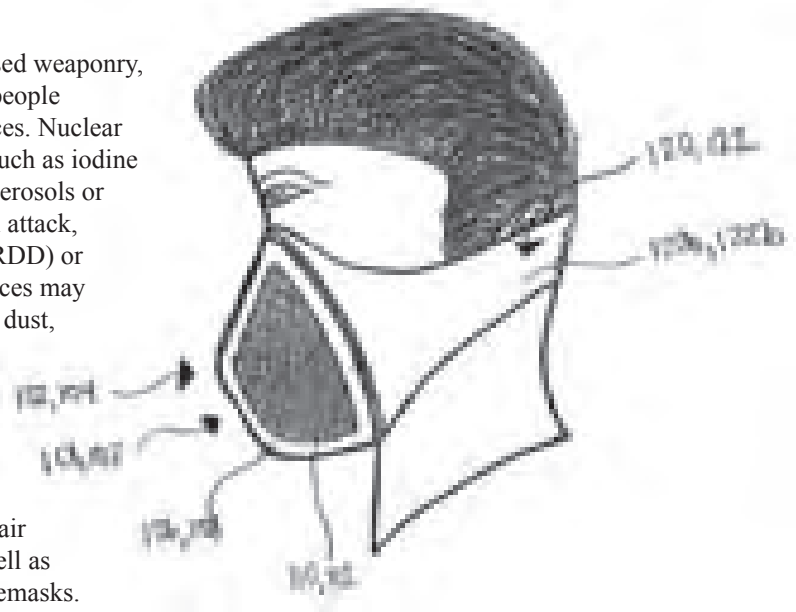


The inventors explain why the need for this device:

As a result of biological or chemical warfare, poison-based weaponry, pollution or other environmental circumstances, the air people breathe can become contaminated with harmful substances. Nuclear accidents can cause the release of radioactive aerosols, such as iodine aerosols. The air may become contaminated with other aerosols or suspended radioactive particles, such as in a radiological attack, through the release of a radiological dispersion device (RDD) or due to so-called “dirty bombs.” These damaging substances may include radioactive particles, germs, poisons, chemicals, dust, fluids, soot, smoke or other harmful airborne particles. Certain individuals, such as soldiers, military personnel, firefighters, physicians and painters, have a higher risk of inhaling contaminated air. These individuals typically use facemasks to help protect themselves.

If a country or a territory is facing an on-going threat of air contamination, there is a need for these individuals as well as regular civilians to have a higher degree of access to facemasks. However, it is often inconvenient, impractical or burdensome for people to carry masks wherever they go. Therefore, there is a need to overcome these disadvantages to help protect the health of civilians and non-civilians in the wake of air contamination.

(Thanks to Martin Gardiner for bringing this to our attention.)



[Figure 3]

## How to Recognize a Weapon of Mass Destruction

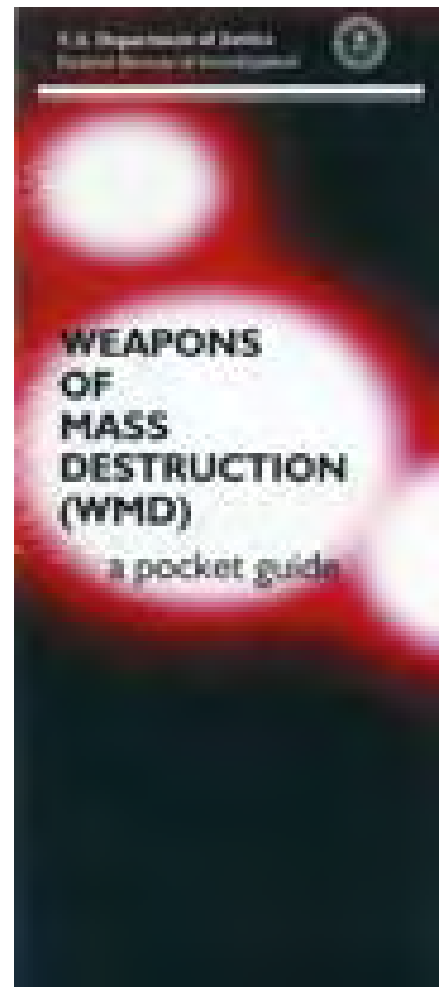
*A guide to the guide published by the FBI*

by A.S. Kaswell, Improbable Research staff

The Federal Bureau of Investigation has published a pamphlet called *Weapons of Mass Destruction (WMD); a pocket guide*. It describes the four types of weapons of mass destruction (“Any explosive or incendiary device: bomb, grenade, rocket...”). The description will be familiar to most people who keep up with the news.

The pocket guide’s key item appears immediately below that definition. It is reproduced here. Presumably it will come as a surprise, perhaps even a shock, to civilians who rarely come in contact with weapons of mass destruction. It says “recognize these universally accepted symbols **but do not expect to see them on a WMD device.**”

(Thanks to Bob Cooke for bringing this to our attention.)



# Bombshell Research Review

*Items that merit a trip to the library*

*compiled by Stephen Drew, Improbable Research staff*

## Developing a personality profile of the bomb-disposal expert: the role of sensation seeking and field dependence–independence

Joseph Glicksohn\*, Menahem Bozna

*Department of Criminology, Bar-Ilan University, Ramat Gan, 52100, Israel*

Received 4 December 1998; received in revised form 14 February 1999; accepted 1 March 1999

### Abstract

The high-risk, prosocial professional should score highly on sensation seeking, particularly on the thrill-and-adventure-seeking subscale (TAS). However, the TAS subscale will not permit differential prediction of who will prefer which high-risk job. The cognitive style of field dependence–independence (FDI) could have predictive faculty. We compared a group of bomb-disposal experts to one comprising anti-terror operatives, examining both personality (sensation seeking and the Eysenckian Big Three) and cognitive style. Our prediction was that while both groups would score high on TAS, they would differ

### Bomb Disposal Experts are Sensational

“Developing a Personality Profile of the Bomb-Disposal Expert: The Role of Sensation Seeking and Field Dependence-Independence”, Joseph Glicksohn and Menahem Bozna, *Personality and Individual Differences*, vol. 28, 2000, pp. 85-92. (Thanks to Neil Martin for bringing this to our attention.) The authors report that:

We found that anti-terror operatives scored quite high on TAS [Thrill and Adventure Seeking] relative to the bomb-disposal experts.

### The Bombshell and the Scholar

“The Bomb and the Bombshell: The Body as Virtual Battlefield,” Marc Laffleur, *InterCulture*, vol. 5.1, January 2008. The author, at York University, Toronto, Canada, explains:

Atomic and nuclear weapons are increasingly the subject of museums, memorials and tourist sites around the United States. These places form a matrix of sites that must be considered as part of the landscape of permanent war. Moreover, I argue

that nuclear-themed spectacles form the backdrop for a new bodily politics of nuclear proliferation and counter-proliferation. With this context in mind, I examine one such memorial event, the Oppenheimer Centennial, and specifically my encounter with the hostess of the event, the beauty queen. The beauty queen as a site of desire and an object of spectacular attention literally embodies the processes of biopolitical capture transforming nuclear weapons into objects of excitement and patriotic pride....

At the Oppenheimer Centennial, the Beauty Queen was the distraction that would make up for the inadequacy of Oppenheimer. But if Oppenheimer provided an inadequate object of attention, the Beauty Queen too was an inadequate object of distraction. Or put another way attention and distraction are always inadequate to themselves. This has nothing to do with the qualities of the Beauty Queen herself, of course, but rather with the fundamentally kinetic nature of the body of the spectator which wanders somewhere between the binary poles of attention and distraction....

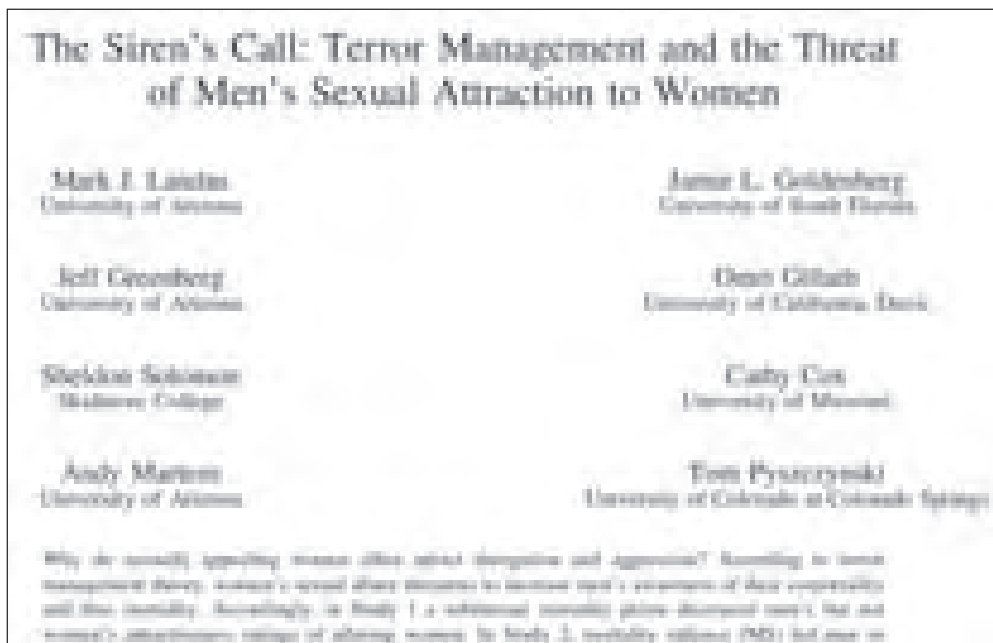
## Terror Management Theory and Female Bombshells

“The Siren’s Call: Terror Management and the Threat of Men’s Sexual Attraction to Women,” M.J. Landau, J.L. Goldenberg, J. Greenberg, O. Gillath, S. Solomon, C. Cox, A. Martens and T. Pyszczynski, *Journal of Personality and Social Psychology*, vol. 90, no. 1, January 2006, pp. 129–46.

(Thanks to Tatiana Divens for bringing this to our attention.)

The authors, at the University of Arizona, Tucson, explain:

Why do sexually appealing women often attract derogation and aggression? According to terror management theory, women’s sexual allure threatens to increase men’s awareness of their corporeality and thus mortality. Accordingly, in Study 1 a subliminal mortality prime decreased men’s but not women’s attractiveness ratings of alluring women. In Study 2, mortality salience (MS) led men to downplay their sexual intent toward a sexy woman. In Study 3, MS decreased men’s interest in a seductive but not a wholesome woman. In Study 4, MS decreased men’s but not women’s attraction to a sexy opposite-sex target. In Study 5, MS and a corporeal lust prime increased men’s tolerance of aggression toward women. Discussion focuses on mortality concerns and male sexual ambivalence.



## The Bomb and the Bombshell: The Body as Virtual Battlefield

Marc Lafleur

*Atomic and nuclear weapons are increasingly the subject of museums, memorials and tourist sites around the United States. These places form a matrix of sites that must be considered as part of the landscape of permanent war. Moreover, I argue that nuclear-themed spectacles form the backdrop for a new bodily politics of nuclear proliferation and counter-proliferation. With this context in mind, I examine one such memorial event.*

# April in Paris?: A Striking Analysis

*by a scientist who is a Paris native and who requests anonymity*

Seasoned visitors to the City of Light always factor in their travel plans the two most prevalent facts of life in France: vacations and strikes. Fortunately, school vacation periods are scheduled in advance with clockwork regularity. Strikes may be nearly as predictable. This preliminary study suggests a strong correlation between occurrences of the two.

The right to protest and demonstrate in France is a fundamental part of life, and not limited to the employed. In fact, foreign visitors in Paris in December 1997 might have witnessed a somewhat surreal event: hundreds of unemployed people on strike, demonstrating in the streets, demanding an end-of-the-year bonus.

But if there is one thing the strikers will not sacrifice, it is their hard earned (and constitutional right to) vacations. Witness the school teachers who went on strike in May of 2003, suspended the strike at the end of June for their summer break, and came back at the beginning of the next school year, in September, to resume the strike. Indeed, major issues had remained unresolved.

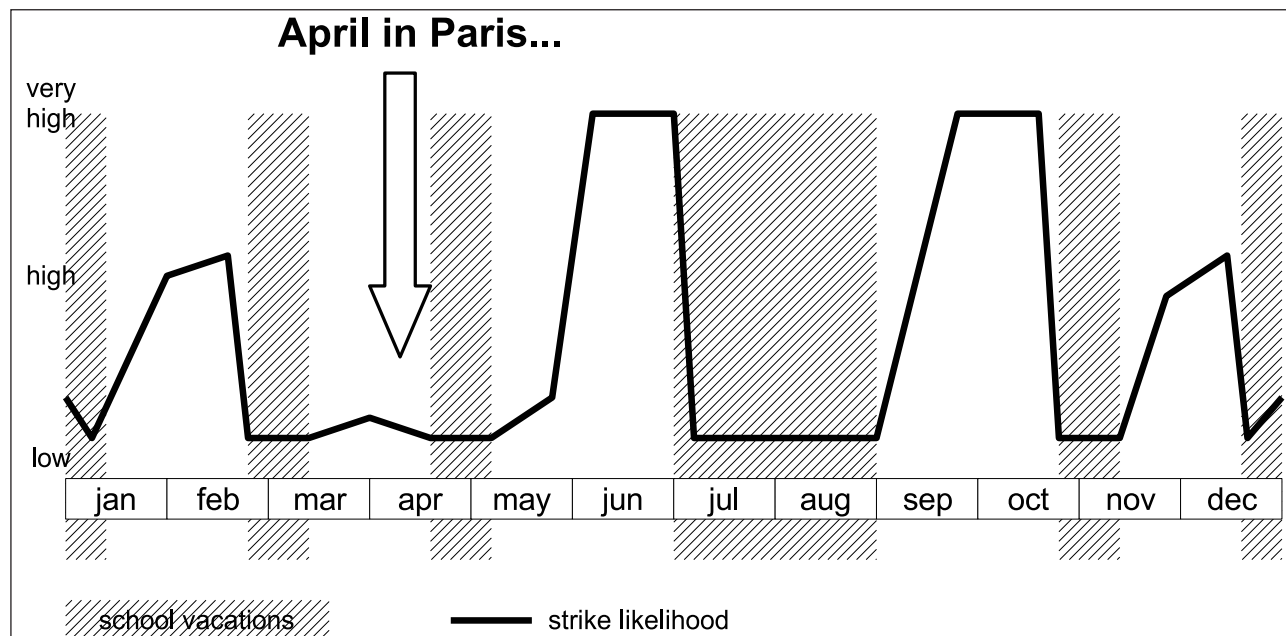
Needless to say, strikes are very unlikely in July and August (summer break), as at least three quarters of the workforce are away on vacation, and so is most of the government. At this time of the year, Paris is populated with tourists and the grumpy quarter of Parisians who got stuck at work while the others are chilling out on the Riviera or camping in Normandy. (This might be an explanation for the poor image of Parisians tourists tend to have, but that is a topic for another study).

In September vacationers come back in town, broke, to find out that the cost of living (public transportations, food, gas, etc.) has gone up while they were gone. Vacationers have to go back to work, days are getting shorter and the weather is worsening. Expect strikes from mid-September to beginning of October. Not too late in October, though, because that would interfere with the first school break (All Saints break, from end of October to beginning of November).

The next high occurrence period is mid-December, when the days are getting really short, the weather is downright miserable and people feel broke and start worrying about the holidays. Some privileged categories of indispensable workers regularly threaten to go on strike during the holidays, but generally the issues get resolved in time for everyone to enjoy the end-of-year festivities.

In January and February, the outdoors activity on everybody's mind is winter sports. Two school vacations, the winter break (late February to mid-March), and the spring break (mid-April to early May), help Parisians survive until the return of warm weather. Everyone is relaxed from the last break, and the anticipation of the next. There is hardly any time left in between to get back to work, let alone sneak in a little strike or protest.

May-June is quite a complex period, due to the number and distribution of holidays in May. May 1st is Labor Day and May 8th is the WWII armistice. In a good year both occur on Monday or Friday, providing two long weekends. On an excellent year, they occur on Tuesday or Thursday, and



*Estimated likelihood of a strike in Paris correlates with school vacations.*

with the “ponts” (“free” non-working days granted to bridge one-day gaps between holidays and week-ends) that’s two four-day weekends. Ascension Day comes 39 days after Easter, and that is a Thursday in May. In an excellent year, that Thursday does not coincide with the other holidays, and that’s another light week (or very long weekend). In fact, in a really good year, an employee can get the whole month of May off by taking about 10 official vacation days. Of course, even in France, not everyone can do that at the same time, so about half the people are away, and the other half are stuck at work, a day or two per week, and not doing much anyways.

When June comes, the weather becomes really pleasant, the Roland-Garros Tennis tournament (French Open, end of May to beginning of June) signals that the end of the school year is close, the summer vacations are around the corner

and everybody is eager to get outdoors. After the end of the French Open, expect major protests with demonstrations en masse. This is the favorite time of the year for students to take to the streets (as end-of-the year exams approach). The strikes and demonstrations will most likely stop on time for Parisians to travel to their favorite summer spot come July.

Note that on a bad year, the May holidays coincide with weekends. The French feel cheated: expect the pre-summer protests to start earlier (although demonstrations are unlikely during Roland-Garros).

So this is why April is clearly the best time to visit Paris: the weather might not be great yet, but the chance of major social disturbances is low, and the Parisians, either coming back from a vacation or about to go on a vacation, are likely in the best mood they’ll be in all year.

# HMO-NO News



*Health care advice to pass on to your patients*



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\*\*\* Instruction fees apply.

\*\*\*\* Patients will be eligible to enroll in our **Water Supply** service. **Water Supply** water available by prescription only.

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# The Cingulate Cortex Does Everything

by Gregory J. Gage†, Hiram Parikh†, Timothy C. Marzullo††

Here we explain most of the mysteries concerning the brain.

We report the “Cingular Theory of Unification,” which postulates that one brain region—the “cingulate cortex”—is the alpha and omega, responsible for all of humankind’s functions. We believe that this theory not only explains the available data, but also prophesizes exponential growth in cingulate research that will dominate all neuroscience research. We provide humble advice on how to avoid such an apocalyptic future.

## The History and Mystery of the Cingulate Cortex

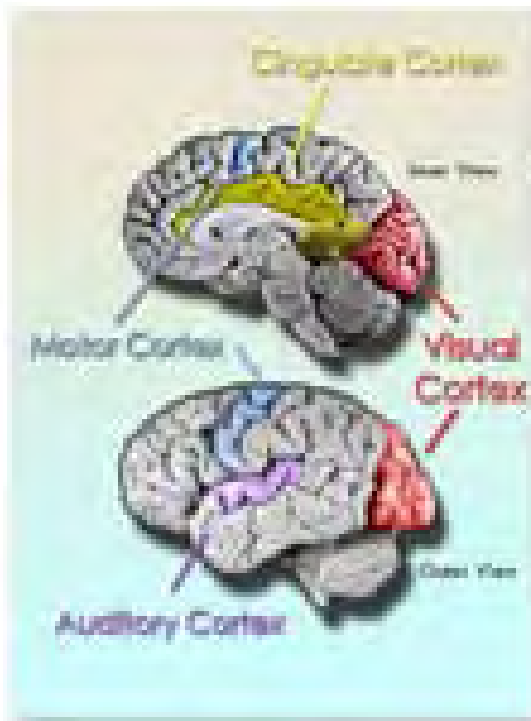
Since the discovery of the small strip of brain called the cingulate cortex in the early 19th century, research has progressed from a trickle of studies to a torrent of investigations threatening to flood the field of neuroscience completely. In these ensuing years the cingulate has been found to play a vital role in almost all human emotions and behaviors, from error prediction to pain perception, and from political persuasion to one’s feeling of optimism. But with so many functions, it has been difficult to answer this simple question: what exactly is the role of the cingulate?

## The Mystery and History of the Cingulate Cortex

The cingulate cortex resides in a ring-like strip of brain tissue in the center fold of the neocortex surrounding the lateral ventricles. The shape of this brain region presumably inspired the German physiologists<sup>1</sup> who discovered it to name it the “cingulate,” derived from the Latin *cingulum*, meaning a belt worn by Roman soldiers to protect their groin. But like many great discoveries, it took much time for the cingulate to grab hold of the conservative scientific community. Since the early 1900s, sporadic reports have described the neural correlates of the cingulate cortex. However, compared to flood of motor, visual and auditory papers, the cingulate reports were a mere trickle. The fault was not of the carpenters, but of the tools that they were using.

† University of Michigan, Department of Biomedical Engineering

†† University of Michigan, Neuroscience Program



## MRI to the Rescue

The belt had to wait for the invention of functional magnetic resonance imaging (fMRI), which would emerge as the savior and restore the cingulate to its throne. In a matter of a few short years, the fundamental role of this brain area became widely discussed. By the early 21st century the cingulate cortex had been found to be involved in loneliness (Eisenberger et al., 2004), religious experiences (Beauregard and Paquette, 2006), political leanings (Amodio et al., 2007), stimulus-reward associations (Takenouchi et al., 1999; Cardinal et al., 2003), motor planning (Shima and Tanji, 1998), error detection (Devinsky et al., 1995), pain perception (Harris et al., 2007), social exclusion

(Eisenberger et al., 2004), reward expectancy (Shidara and Richmond, 2002), sleep (Rolls et al., 2003), the placebo effect (Wager et al., 2004), optimism (Sharot et al., 2007), political liberalism (Amodio et al., 2007) and work from our group on neuroprosthetic models (Marzullo et al., 2006a).

## The Cingulate Cortex to the Rescue

We do not believe this to be a comprehensive list. Quite to the contrary, we hypothesize that the reason why so many aspects of human behavior appear to have a neural correlate in the cingulate is due to one simple fact:

The cingulate cortex is responsible for everything.

We call this the “Cingular Theory of Unification” which unifies all of the existing discoveries into one simple framework. One implication of this hypothesis is that since more and more researchers will find this brain region attractive, the amount of publications should grow unabated.

## Our Triumph, and How We Did It

To test our theory, we retrieved the number of abstracts that referenced the words “cingulate cortex” in a popular scientific paper repository Pubmed (<http://www.pubmed.org>) and created a histogram of cingulate references by grouping the number of citations by year. We then tested the curve against traditional growth functions and fit the model to the function with the strongest statistical fit. As controls, we also repeated the experiment for the motor cortex and the

auditory cortex, two historical heavyweights of brain science research:.

Figure 1 shows the results of our analysis. There is an initial increase during the 1950s for both the auditory and motor cortices, most probably due to the advent and progress of extracellular recording and stimulation methods. Compared to these cortical areas, the cingulate is a late bloomer, only beginning to rapidly increase during the early 1990s.

But this late surge is extremely dramatic. In fact, the cingulate cortex begins to surpass the auditory cortex in the late 1980s and finally overtakes the mighty motor cortex in 2007. These trends were best modeled as exponential fits using least-squares estimation. Of the three, the cingulate cortex had the best fit ( $R^2 = 0.97$ ) and also the most explosive growth. It should be emphasized that such a high  $R^2$  value is almost unheard of in the scientific community. With such a strong fit, we three sophomore prophets can predict the future of neuroscience.

Using this model, we conservatively attempted to predict the next 20 years of research for these three fields of study. Figure 2 shows our estimates from now to the year 2027.<sup>2</sup>

We are beginning to see an alarming trend: cingulate cortex publications will increase by a factor of 15, whereas motor and auditory research will only increase by a factor of 1.5<sup>3</sup>. If we extend our model to predict towards the end of the 21st century, though merely a prophetic projection, the cingulate cortex will dominate > 99% of all neuroscience research.

## The Cingularity

We predict that between 2050 and 2100, there will be more cingulate publications than there are cells in the cingulate cortex itself. At this point, we fear that the “Cingularity” will be reached, and the cingulate cortex will become self-aware.

This trend does not have to continue! As intelligent, sentient beings we have the power to stop our very own cingulate cortices from

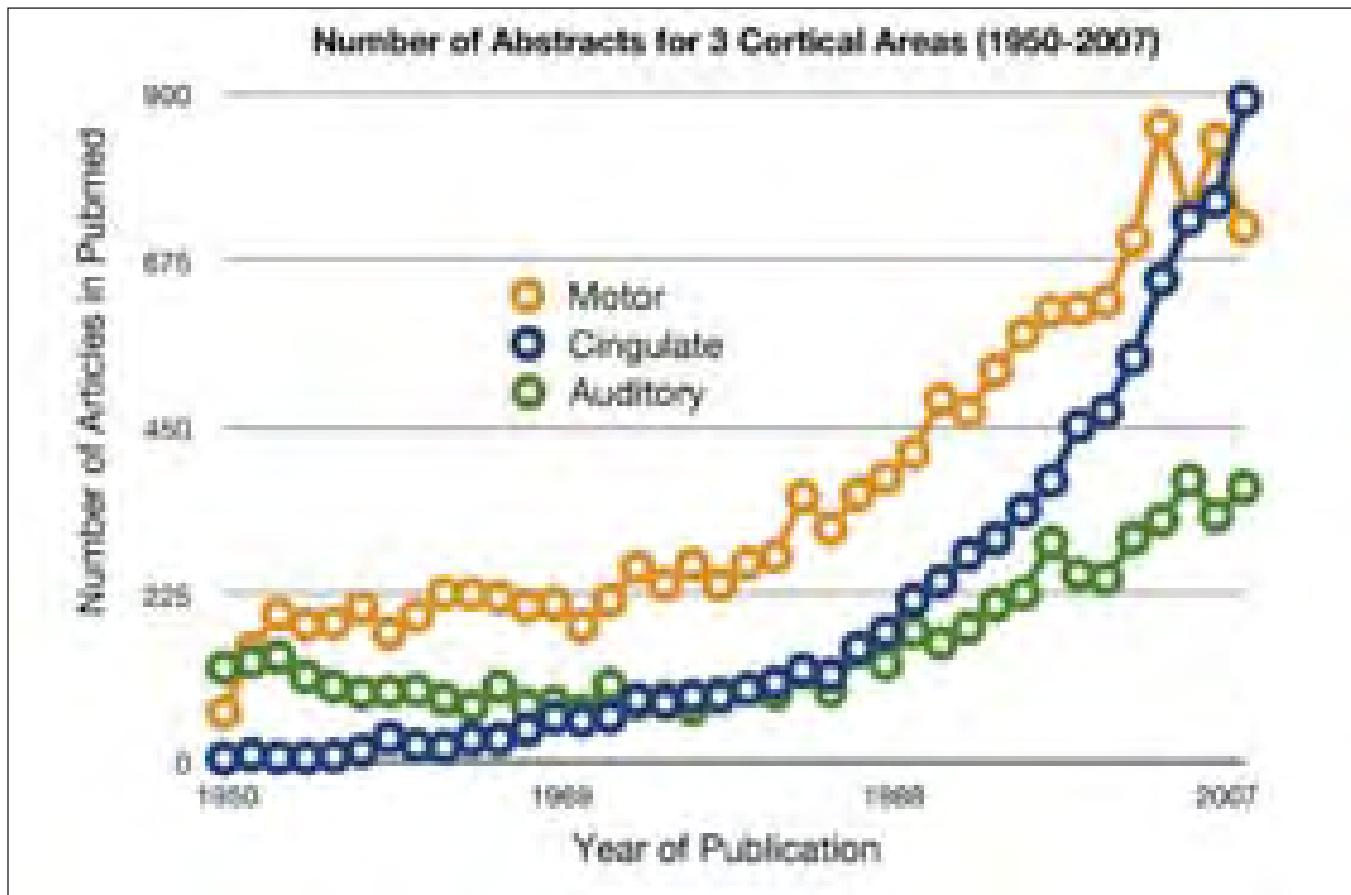


Figure 1. Number of abstracts for three cortical areas (1950-2007). The total number of abstracts from 1950 to 2007 which mention one of the three cortical areas are displayed. Note that in 2007, the number of abstracts that mentioned “Cingulate” finally overtook the mighty motor cortex. The  $R^2$  values of an exponential regression fit were 0.90, 0.97, and 0.54 for the number of motor, cingulate, and auditory papers respectively.

taking over America, and indeed, the entire world. If the cingulate decides to use its powers for for evil, future human success may be neither assumed nor assured.<sup>3</sup> We hereby pronounce that we should use the best of our energies and skills to determine not what the cingulate does, but how the cingulate does all it does, and indeed, what its true intentions really are.

Even though the original discoverers did not realize that the cingulate cortex was at the apex of the functional hierarchical model of the brain, they could not have chosen a more appropriate name. For it truly lives up to a cingulum by tying together every human's needs, wants, hopes, desires, hates, loves and fears.

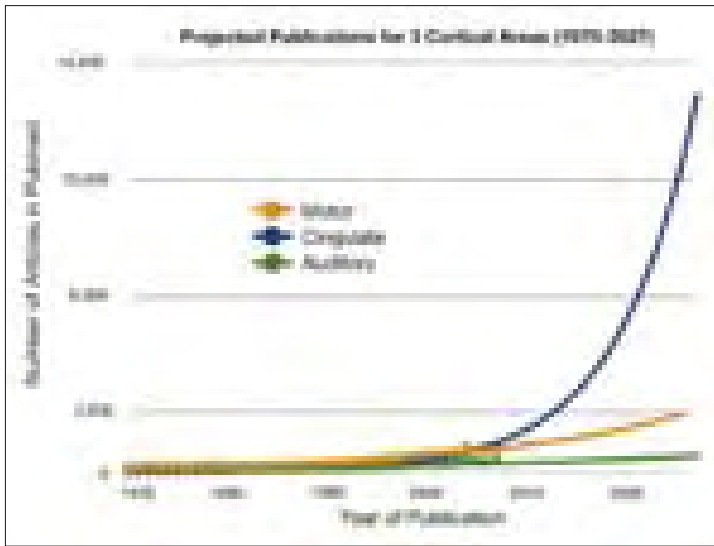


Figure 2. Projected publications for three cortical areas (1970-2027). Using our exponential model, we predict that the number of citations for the cingulate cortex in the year 2027 will be on the order of 13,500! That is a 15-fold increase in publications from the 900 in 2007, whereas the motor and auditory cortices will have a more reasonable and sustainable number of publications.

**Every Day**

Read something new and improbable every weekday on the Improbable Research blog, on our web site:

**WWW.IMPROBABLE.COM**

## Acknowledgements

The authors wish to thank Dr. Régis Olry and Dr. Stanley Finger for their help in finding historical references on the discovery of the cingulate cortex, as well as Dr. Manfred Spitzer for his encouragement in publication and the translation of the original text into German. Results from this study were previously presented at the 2007 annual Society for Neuroscience meeting in San Diego, California.

## Appendix

We wholeheartedly encourage other scientists to investigate this trend against their pet neocortical area. Simply go to pubmed.org, search for a cortical area (e.g. “motor cortex”), save all output to a txt file, and run the following code in Matlab with the following function, for example: `fff( '/motorcortex.txt' )`. A histogram will then be generated for you.

```
function [ n ] = fff( input_args )
%FFF Summary of this function goes here
% Detailed explanation goes here

file = textread( input_args, '%s',
'delimiter', '/n', 'whitespace', '' );
iYear = 1;
for i=1:length(file)
    i19 = findstr( file{i}, '19' );
    i20 = findstr( file{i}, '20' );

    if length(i19) > 0
        try
            year{ iYear } = file{i}(i19:i19+3);
            iYear = iYear + 1;
        end
    end

    if length(i20) > 0
        try
            year{ iYear } = file{i}(i20:i20+3);
            iYear = iYear + 1;
        end
    end
end

iYear = 1;
for i = 1:length( year )

    tm = str2num(year{ i } );
    if size(tm,1) > 0
        try
            y( iYear ) = tm;
            iYear = iYear + 1;
        catch
            disp('error'); disp(i);
        end
    end
end
cingulate = y(y<2008 & y>1949);
edges = [1950:2007];
n = histc( cingulate, edges );

figure;
bar( edges, n );
size( year );
```

## Notes

1. Karl Friedrich Burdach (*Vom Baue und Leben des Gehirns und Rückenmarkes*. Leipzig: in der Dyck'schen Buchhandlung, 3 vols., 1819–26) or Adolf Pansch (*Die Furchen und Wülsche im Grosshirn des Menschen. Zugleich eine Erluterung zu dem Hirnmodell*. Berlin, 1879)
2. We also ran the analysis on the visual cortex. In 2007, the visual cortex was still king, with 911 publications to the cingulate's 893. However, the cingulate will not be deterred. For example, in 1970, there were 343 visual cortex publications, compared to only 6 (!) cingulate cortex papers. We predict 2008 will be the year even the mightiest of mighty, the visual cortex, is finally dethroned by the warlike cingulate cortex, the Beowulf of our age. By 2027, the visual cortex will only increase by a mere factor of 3, compared to the cingulate's 15.
3. Such dire predictions are in full agreement with previous work from our group examining the ability of rat brains to control the stock market (Marzullo et al., 2006b).

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## AIR Teachers' Guide

Three out of five teachers agree: curiosity is a dangerous thing, especially in students. If you are one of the other two teachers, *AIR* and *mini-AIR* can be powerful tools. Choose your favorite *hAIR*-raising article and give copies to your students. The approach is simple. The scientist thinks that he (or she, or whatever), of all people, has discovered something about how the universe behaves. So:

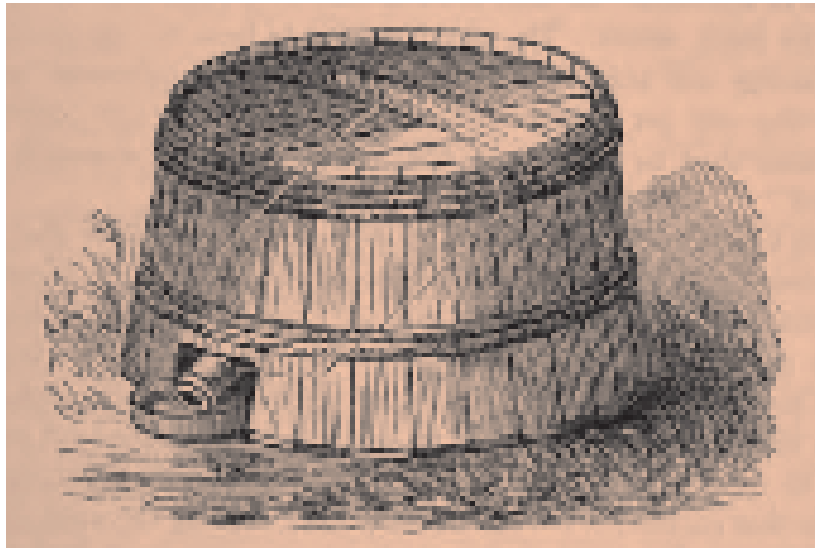
- Is this scientist right—and what does “right” mean, anyway?
- Can you think of even one different explanation that works as well or better?
- Did the test really, really, truly, unquestionably, completely test what the author thought he was testing?
- Is the scientist ruthlessly honest with himself about how well his idea explains everything, or could he be suffering from wishful thinking?
- Some people might say this is foolish. Should you take their word for it?
- Other people might say this is absolutely correct and important. Should you take their word for it?

*Kids are naturally good scientists. Help them stay that way.*

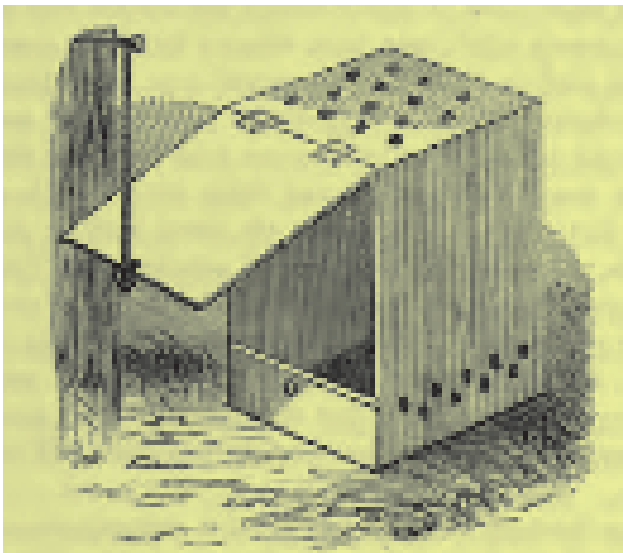
# Puzzling Solutions

*Solution to Last Month's Puzzler*

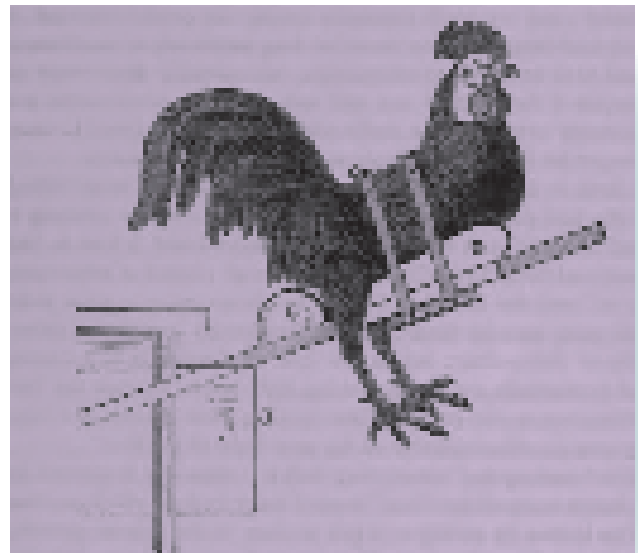
*by Emil Filterbag, Improbable Research staff*



**QUESTION A:** No more than 4219 (four thousand two hundred nineteen) cubic liters per second.



**QUESTION B:** Not more than three (3) cubic milliliters per month.



**QUESTION C:** It's mostly due to the surface friction.

# Constellation Reformation: The Next Generation

by Ursula Majors

In a previous issue of this journal (vol. 14, no. 1, January–February 2008), I called on the scientific community to institute a comprehensive restructuring of constellation naming conventions as part of an effort to attract more students. Not only did I propose radical design changes, but I also recommended that the Latin names be forsaken altogether in favor of modern English. I presented four examples, including Cassiopeia rearranged and renamed as Handgun.

I anticipate that my plan for constellation reformation will garner overwhelming accolades from science teachers the

world over. Thus galvanized by a renewed sense of purpose, I present four additional alterations.

First, I propose transforming Corona Borealis, which depicts a king’s crown, into the more recognizable Cheeseburger, as illustrated in Figure 1. Likewise, Lyra, which portrays a harp, would be better served if it were transformed into Segway, as shown in Figure 2. Additional examples include Cygnus refurbished as Airliner (Figure 3), and Canis Major modernized to become Sports Car (Figure 4). These are but a few of the many possibilities if my proposed constellation reformation is eventually embraced by the scientific community. “Make it so.”

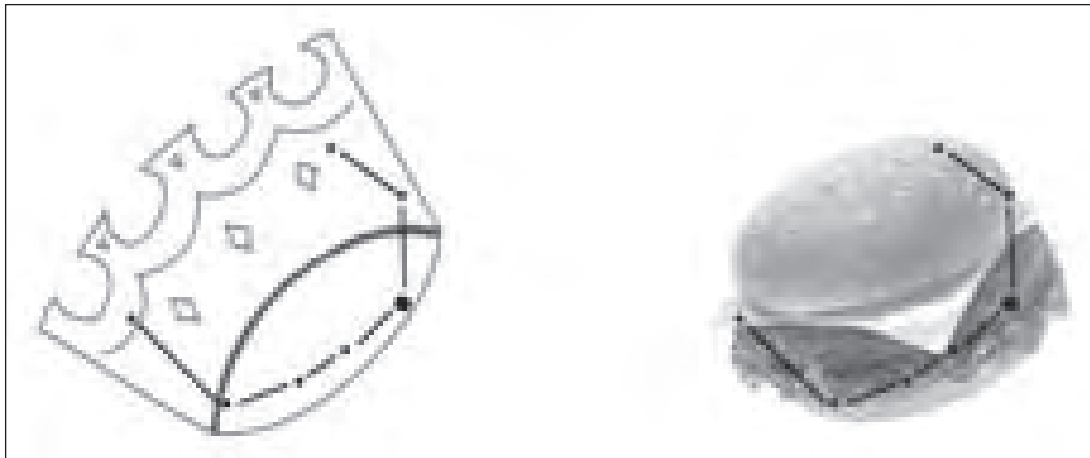
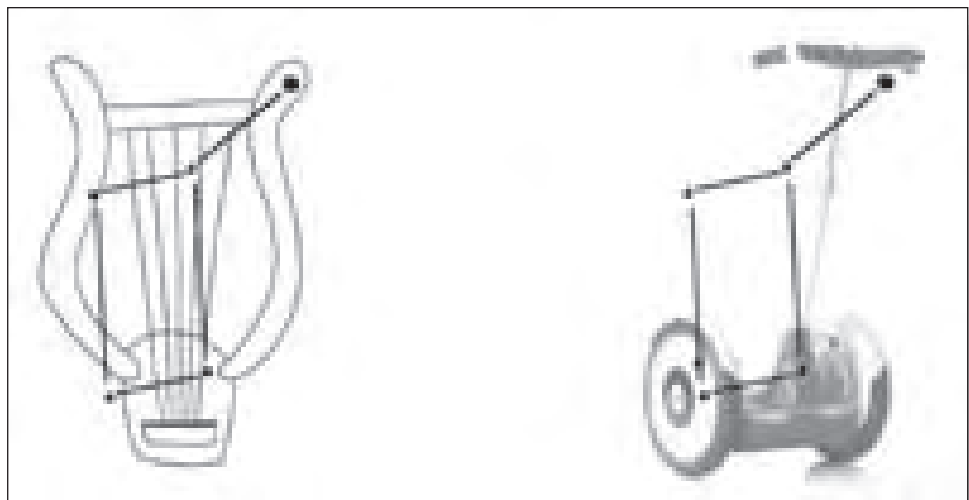


Figure 1. The constellation Corona Borealis transformed into Cheeseburger.

Figure 2. The constellation Lyra transformed into Segway.



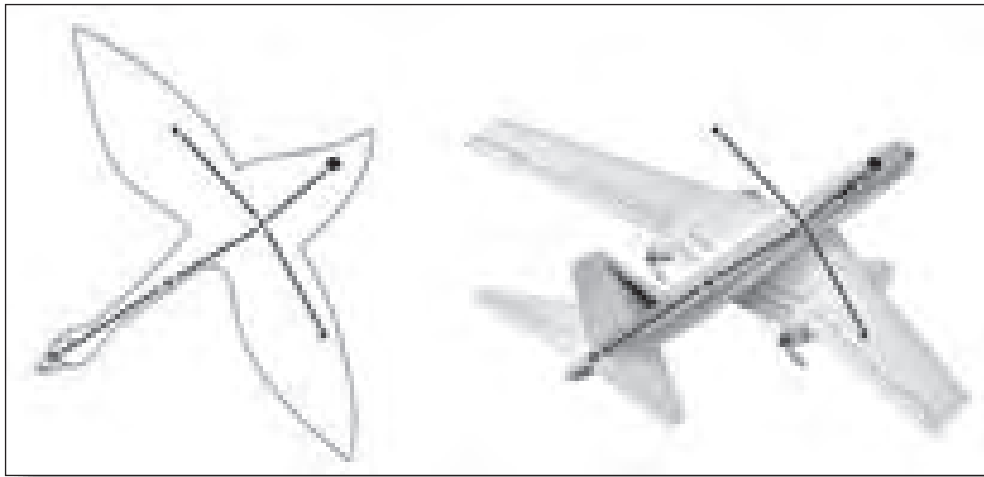
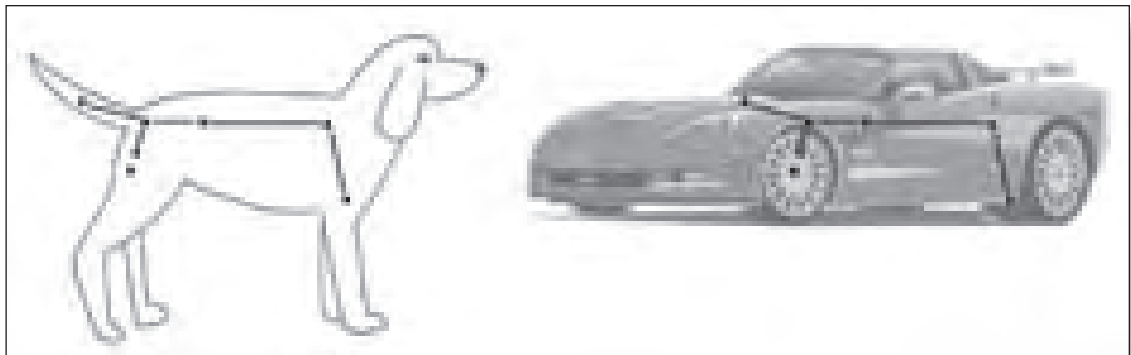


Figure 3. The constellation Cygnus transformed into Airliner.

Figure 4. The constellation Canis Major transformed into Sports Car.



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Stanton G. Kimmel, Normal, OK

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### Pulmonary Medicine

Traian Mihaescu, Iasi, Romania

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David Rabin, Highland Park Hosp., IL

### Science Policy

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### Stochastic Processes

(selected at random from amongst our

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Franziska Brenneke

Bonn, Germany

### Women's Health

Andrea Dunaif, Northwestern U.

JoAnn Manson, Brigham & Women's Hosp.

### A Guide to the Stars

\* Nobel Laureate  
 \*\* world's highest IQ  
 \*\*\* convicted felon  
 \*\*\*\* misspelled  
 \*\*\*\*\* sibling rivalry  
 \*\*\*\*\* six stars  
 \*\*\*\*\* Ig Nobel Winner

# A Penny's Not Going to Kill You

by Ernest Ersatz, *Improbable Research* staff  
photos by A.S. Kaswell, *Improbable Research* staff  
illustrations from *Gray's Anatomy, 1883*

Although people say that “a penny’s not going to kill you,” that’s not strictly true. Sometimes a penny will kill you.

There are several cases on record where ingesting a penny has killed a child,<sup>1</sup> but, this report deals only with adult misadventures. Children have respect for pennies. Too often, adults do not.

## Yen and A Quarter

Pennies are not uniquely a source of danger. There are two notable and curious cases,<sup>2,3</sup> which I will not go into here except briefly, of other kinds of coins being involved with death.

A 50-yen coin and/or a 100-yen coin can kill you, as researchers at Osaka University Medical School handled discovered. As they describe it:

A 28-year-old male was found dead on a bed in a hotel. He had two electric wires, the ends of which were fastened to each coin (50 and 100 yen); the coins were attached to a left hypochondrial region and a left side of the chest. The other ends of the wires were connected to a time switch, which had been connected to a plug top (100 V, 60 Hz alternating current)... The cause of death was thus judged to be suicidal electrocution. It seems that suicide was influenced by a “Manual Book of Suicide,” which was found in his bag.

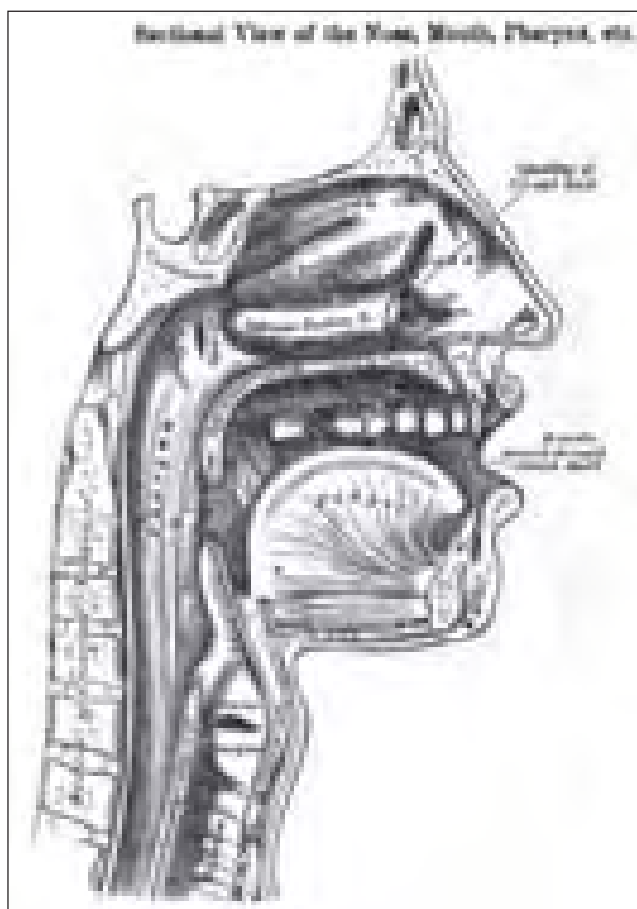
However, it appears that a quarter cannot kill you, at least not if you are already dead. Investigators at the Los Angeles County Coroner’s Department made that discovery, which they describe thusly:

A 69-year-old Chinese woman... was found at autopsy to have a quarter in her air passages. Inquiry showed that her family had placed the coin in her mouth at the time of death according to traditional Chinese funeral practices. This practice is apparently not widely known among forensic pathologists.

Other than these two cases, however, the scope of the current investigation is limited to pennies.

## Penny Potency

Although I was not able to find a case in which a single penny killed an adult human being, adult death-by-single-penny is not a far-fetched theoretical abstraction. Far from it.



The evidence below, coupled with the additional evidence I alluded to in the previous paragraph (see especially footnote 1, referenced in the first sentence of that paragraph, which is the second paragraph of this report) suggests that it could easily, or fairly easily happen, and perhaps already has happened or is about to happen. Maybe it has just happened, but so very recently that there has not been time for me to persuade the editors that they should re-compose this page to include the information, thus publishing a report that is truly up to date rather than almost up to date.

There is no controversy as to whether *several* pennies, together, can do you in. Pennies in quantity unquestionably can be instruments of death.

Let's look at the medical record.

## Twenty Pennies Can Do It

Twenty pennies can kill you, if you are a hyena. Investigators at the Detroit Zoological Institute explain how they discovered this fact:

An 11-yr-old captive-born female striped hyena (*Hyaena hyaena*) acutely developed lameness and swelling of the left front foot with anorexia, depression, and lethargy. Hematologic evaluation revealed regenerative anemia, azotemia, and other

mild serum electrolyte and mineral abnormalities. Twenty radiographically visible coins and 10 coin fragments were removed by laparotomy and gastrotomy following unsuccessful medical therapy. The animal died during anesthetic recovery.... The case highlights the risk posed by penny ingestion for subsequent zinc toxicosis in captive omnivores.<sup>4</sup>

## Twenty Times Twenty Can

Four hundred sixty-one pennies can kill you. Investigators at the Los Angeles County-University of Southern California Medical Center claim credit for the discovery. In their words:

This is the first reported case of human fatality associated with zinc intoxication following a massive ingestion of coins. Four hundred and sixty-one coins were removed from the gastrointestinal tract of a schizophrenic patient during the course of hospitalization. Many of the post-1981 pennies, which consist primarily of zinc, showed severe corrosion due to their prolonged contact with acidic gastric juice. The patient presented with clinical manifestations consistent with the local corrosive as well as systemic effects of zinc intoxication and died 40 days after admission with multi-system organ failure.<sup>5</sup>



## Discussion

My preliminary research indicates that most coin-related deaths in adults—at least most of the deaths reported in the official medical literature—involve American coins,

and most of those coins are pennies.

What of other coins?

Many nations have coins that cause medical problems. My report about deaths due to those coins will be reported in a series of separate publications. This report, as I have stated several times, deals mostly with pennies.

It may be true that American coins smaller or larger than a penny are seldom involved directly in causing death. One cannot rule out the possibility, though, that people are more careful in how they use these other coins, because each coin is worth

more than a humble penny. That is mere speculation, though. Based only on the available evidence, one must conclude that while a penny can do you in, a dime's not going to kill you.

## References

1. See, for example, "Esophagoaortic Perforation by Foreign Body (Coin) Causing Sudden Death in a 3-Year-Old Child," M. Dahiya and J.S. Denton, *American Journal of Forensic Medicine and Pathology*, vol. 20, no. 2, June 1999, pp. 184–8.
2. For the full report, see "A Suicidal Case of Electrocutation With Hypnotic Drug Poisoning: An Autopsy Report" [article in Japanese], M Yamazaki, M Terada et al., *Nippon Hoigaku Zasshi [Japanese Journal of Legal Medicine]*, vol. 52, no. 2, April 1997, pp. 95–101.
3. For the full report, see "A Coin in the Airway," C. Rogers, B. Chang, and R. Shibuya, *American Journal of Forensic Medical Pathology*, vol. 15, no. 1, March 1994, pp. 91–2.
4. "Zinc Toxicosis in a Captive Striped Hyena (*Hyaena hyaena*)," D.W. Agnew, R.B. Barbiere, et al., *Journal of Zoo and Wildlife Medicine*, vol. 30, no. 3, September 1999, pp. 431–4.
5. "Zinc Toxicity Following Massive Coin Ingestion," D.R. Bennett, et al., *The American Journal of Forensic Medicine and Pathology*, vol. 18, no. 2, June 1997, pp. 148–53.

An advertisement for "Ig Nobel & Improbable Research Books". The background is a collage of various book covers, including one titled "Murphy's Law" and another titled "The Man Who Tried to Clone Himself". The text is centered on the collage.

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# **Ig Nobel**



# Peer Review: Donut Innards

*Research selected and reviewed by a truly hereditary Peer*

by Siegfried Peer, MD, LFHCfS  
Professor of Radiology  
Innsbruck Medical University  
Innsbruck, Austria

Since the discovery of the X-ray, radiology is a steadily evolving science. We radiologists not only poke around into the deepest secrets of your brains, we can also make your nutrition healthier and more enjoyable.

## Scanning: Mustard, Jam or Custard

Dr. Morhard and colleagues from the Campus Grosshadern of Munich University, Germany, tackle the problem of how to avoid the disgusting experience of eating a mustard filled donut.

“Die Diagnostische Wertigkeit von Dual-Energy-CT und 3 Tesla-MRT in der Diagnose von Faschingskrapfen (Berliner Pfannekuchen) –Wo ist die Marmelade, wo der Senf und wo der Pudding?,” (The Diagnostic Value of Dual-Energy CT and 3 Tesla MRI in the Diagnosis of German Mardi Gras Donuts - Where is the Mustard, Where is the Custard and Where is the Jam?), D. Morhard, O. Dietrich, M. Reiser and B. Ertl-Wagner, *Fortschr Röntgenstr.*, vol. 180, no. 4, April 2008, pp. 318-24. The authors report:

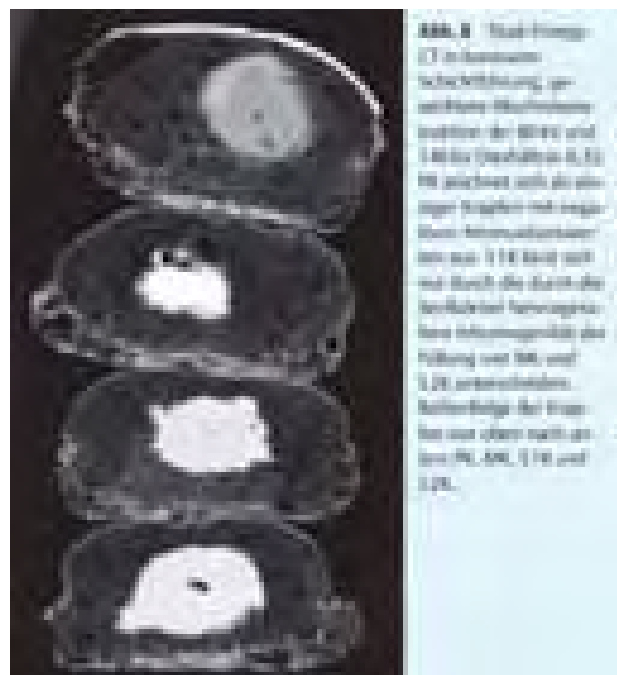
**PURPOSE:** As a Mardi Gras joke, the original jam or custard fillings of German Mardi Gras donuts are frequently replaced with mustard which cannot be identified on the outside of the donut. The aim of our study was to evaluate the impact of modern CT and MRI techniques on the diagnostic evaluation of donuts filled with mustard, jam or custard....

PK (custard filling) was able to be easily differentiated from the other donuts due to its hyperintensity in the STIR sequences and hypointensity in the T1-weighted sequences. MK (jam filling) was able to be differentiated from S1K and S2K (different types of Bavarian mustard) on the basis of its diffusion properties. In CT, PK showed a pronounced hypoattenuation with negative Hounsfield units in contrast to the strongly hyperdense MK, S1K and S2K. S1K and S2K demonstrated X-ray attenuation considerably dependent on the X-ray energy.

So if ever in doubt about your favorite snack, just drop into the next radiology clinic and have it cut into some nice CT or MRI slices. The more robust natures among us will probably use a knife to achieve the same effect, but why manage a potentially hazardous, archaic tool, when you can rely on the blessings of modern medicine.



*The Munich donut study.*



*Some donut images from the study.*



# Boys Will Be Boys

Research by and for adolescent males of all ages and sexes

compiled by Katherine Lee, Improbable Research staff

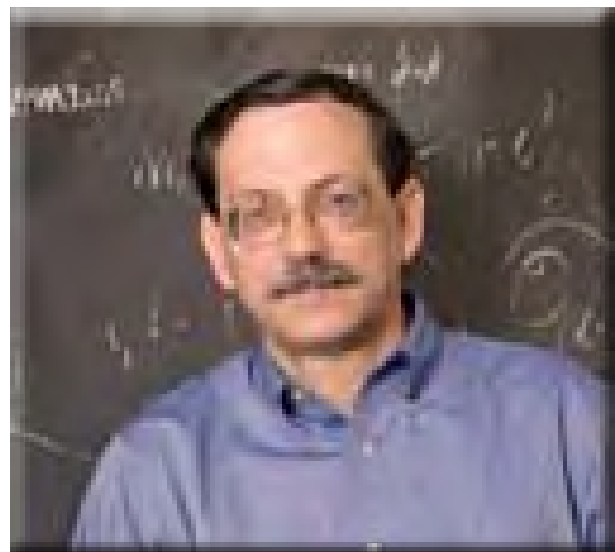
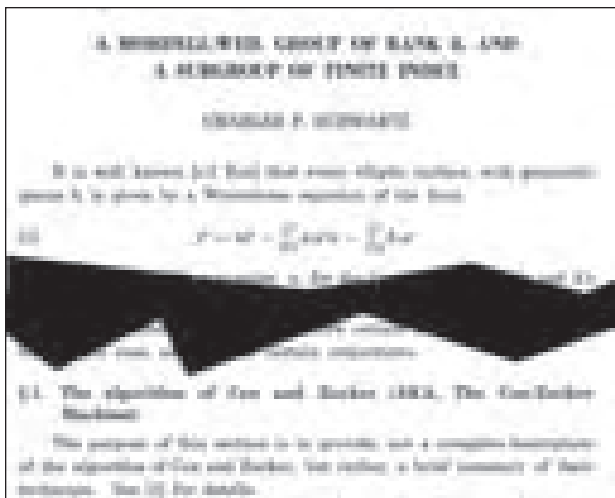
## The Cox-Zucker Machine

“A Mordell-Weil Group of Rank 8, and a Subgroup of Finite Index,” Charles F. Schwartz, *Nagoya Math Journal*, vol. 93, 1984, pp. 17–26. (Thanks to Rodrigo Trevino and Don Troop for bringing this to our attention.) The author, who is at Rider College in Lawrenceville, New Jersey, makes reference to the following paper, which was written by two Rutgers University mathematicians: “Intersection Numbers of Sections of Elliptic Surfaces, David A. Cox (who is now at Amherst College) and Steven Zucker (who is now at

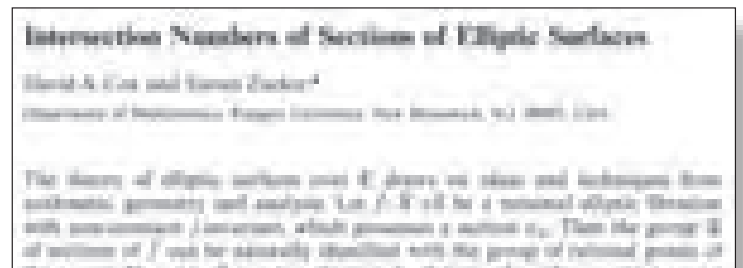
Johns Hopkins University), *Inventiones Mathematicae*, vol. 53, 1979, pp. 1–44. The Schwartz paper is notable for its Section 1, which begins:

### 1. The algorithm of Cox and Zucker (AKA, The Cox-Zucker Machine)

The purpose of this section is to provide, not a complete description of the algorithm of Cox and Zucker, but rather, a brief summary of their technique.



Professor David Cox of Amherst College, co-inventor of the Cox-Zucker machine. Painting by Nan Swift, Improbable Research staff.



Professor David Zucker of Johns Hopkins University, co-inventor of the Cox-Zucker machine. Painting by Nan Swift, Improbable Research staff.



## Boys Will Be Boys, On and Off and On and Off and On

“Successful Penile Replantation Following Autoamputation: Twice!” *International Journal of Impotence Research*, B.G. Volkmer and S. Maier, vol. 14, no. 3, June 2002, pp. 197–8. (Thanks to Dieter Frobel for bringing this to our attention.) The authors, at University of Ulm, Germany:

Report on a psychiatric patient who performed self-emasculation twice in an interval of 10 years. The penis was replanted microsurgically in both cases.

## The Sociology of Swingers

“The Sociology of Mate Swapping: Or the Family That Swings Together Clings Together,” Duane Denfeld and Michael Gordon, *Journal of Sex Research*, vol. 6, no. 2, May 1970, pp. 85–100. The authors explain that:

[Mate swapping] is an activity which involves common planning and preparation, and provides subject matter for conversation before and after, thus it could further consolidate the marriage....

Swingers, according to [Carolyn] Symonds, are not of one mold; she distinguishes “recreational” from “Utopian” swingers. The recreational swinger is someone “who uses swinging as a form of recreation”; he does not want to change the social order or to fight the Establishment. He is, in [Robert] Merton’s typology of deviance, an “aberrant.” The recreational swinger violates norms but accepts them as legitimate. The Utopian swinger is “nonconformist,” publicizing his opposition to societal norms.

## A Special Ring

“Unusual Substitution in an Arsole Ring,” Gottfried Märkl and Hagen Hauptmann, *Angewandte Chemie*, vol. 11, no. 5, 1972, p. 441. (Thanks to Guy Curtis for bringing this to our attention.)

## Girls Will Be Girls

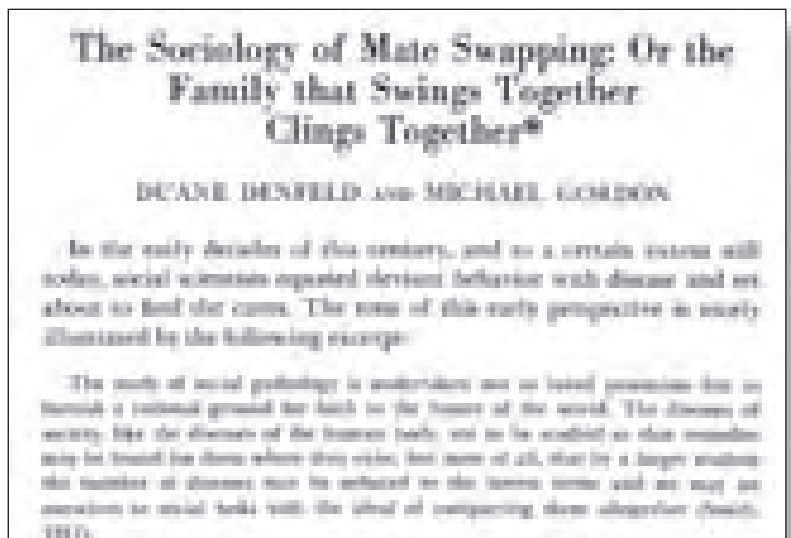
“Sex Differences in Viewing Sexual Stimuli: An Eye-tracking Study in Men and Women,” Heather A. Rupp and Kim Wallen, *Hormones and Behavior*, vol. 51, no. 4, April 2007, pp. 524–33. (Thanks to Frankie Prahara for bringing this to our attention.) The authors, at Emory University, explain:

We used eye tracking to measure looking by 15 male and 30 female (15 normal cycling (NC) and 15 oral contracepting (OC)) heterosexual adults viewing sexually explicit photos.... Men spent more time, and had a higher probability of, looking at female faces. NC women had more first looks towards, spent more time, and had a higher probability of, looking at genitals.

## Univariate Analysis of Orgasm Fakers

“Pretending Orgasm During Sexual Intercourse: Correlates in a Sample of Young Adult Women,” M.W. Wiederman, *Journal of Sex and Marital Therapy*, vol. 23, no. 2, 1997, pp. 131–9. (Thanks to John Bell for bringing this to our attention.) The author, at Ball State University, reports

161 young adult women provided data... Overall, more than one-half of the women reported having pretended orgasm during sexual intercourse. In univariate analyses, the “pretenders” and “nonpretenders” did not differ in experimenter-rated facial attractiveness, self-rated body attractiveness, or general self-monitoring. However, pretenders were significantly older; viewed themselves as facially more attractive; reported having had first intercourse at a younger age; reported greater numbers of lifetime intercourse, fellatio, and cunnilingus partners; and scored higher on measures of sexual esteem and erotophilia.



# Bends on the Learning Curve

*Improbable ideas and explanations collected from the wild*

by Richard Lederer

Here are some insights that cropped up in medical transcriptions:

- This man has had numbness from his waist down when standing up and when sitting for several months.
- Last night he had for dinner some gator tail, salad, and some other food, along with his wife.
- The patient was referred to the sleep clinic because of his wife's concern that she has observed him to stop breathing for more than five years.
- She complains of pain with intercourse in the mid to lower abdomen.

*This—alas!— is the final “Bends on the Learning Curve” column. Richard Lederer no longer collects specimens of this type. He is now busily and happily engaged in other research. We are grateful to him for contributing so many years’ worth of splendid material to us and to you.*

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# Icky Cutesy Research Review

Research reports that are icky and/or cutesy

compiled by Alice Shirrell Kaswell, Improbable Research staff

## Cutesy about Cuteness

“Perceived Cuteness, Activity Level, and Gender in Schematic Babyfaces,” S.J. McKelvie, *Journal of Social Behavior and Personality*, vol. 8, no. 2, 1993, p. 297.

## Cutesy and Icky: Scratch Plus Sniff

“Scratch and Sniff: The Dynamic Duo,” W.Z. Stitt and A. Goldsmith, *Archives of Dermatology*, vol. 131, no. 9, September 1995, pp. 997–9. (Thanks to Rachael Brallier for bringing this to our attention.) The authors, who are at the University of Rochester School of Medicine and Dentistry, Rochester, New York, explain:

In this age of polymerase chain reactions, in situ hybridization, and immunohistochemical staining, is there any room left for the nose in diagnosing disease? Long ago, and perhaps far away, smell was crucial to describing an illness. Infectious diseases were known by their characteristic odors--scrofula as smelling like stale beer; typhoid, like freshly baked brown bread; rubella, like plucked feathers; and diphtheria, as “sweetish.” Anosmics might be banned from medical school. Perhaps we have left the descriptions behind along with these illnesses we rarely encounter today. After all, how many young physicians, residents, or medical students have ever seen a case of diphtheria or even rubella, and how many fewer have ever plucked a chicken? We have learned that pellagra (that “must appear” diagnosis in our differential by rote, but not by example, for photosensitive dermatoses) should smell like sour bread and that the exotic favus

should smell “mousy.” What does *Candida* smell like -- a “heavy sweetness”? Darier’s disease in poor control -- “organic”? Pseudomonal infections -- “foul and biting”? And are not our patients with noninfected eczematous dermatitis distinct for lacking any peculiar odor, do they not actually smell “dry”? We cannot blame the abandonment of our olfactory skills on the younger generation, for how many of us could describe those odors we smell every day?

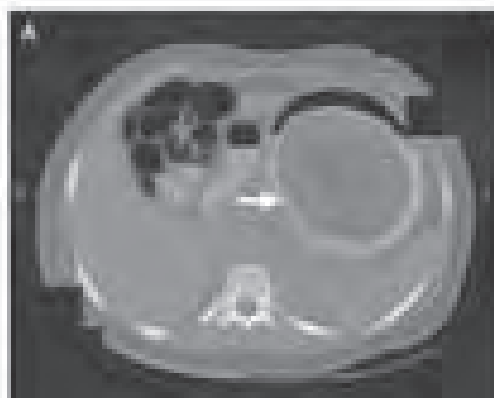
## Icky: Mighty Trichobezoar

“Trichobezoar,” Ronald M. Levy and Srinadh Komanduri, *New England Journal of Medicine*, vol. 357, no. 21, November 22, 2007, p. e23 (<http://dx.doi.org/10.1056/NEJMicm067796>). The authors, at Rush University Medical Center, Chicago, report (accompanied by photographic evidence):

A previously healthy 18-year-old woman presented with a 5-month history of pain in the left upper quadrant of the abdomen, abdominal distention, postprandial emesis... Esophagogastroduodenoscopy revealed a large bezoar occluding nearly the entire stomach, without extension into the duodenum. On questioning, the patient stated that she had had a habit of eating her hair for many years—a condition called trichophagia. Owing to the large size of the trichobezoar (37.5 by 17.5 by 17.5 cm), endoscopic removal was not attempted. Laparoscopic removal was attempted; however, conversion to an open procedure was required to completely remove the 4.5-kg trichobezoa

## Trichobezoar

**A** PREVIOUSLY HEALTHY 18-YEAR-OLD WOMAN PRESENTED with a 5-month history of pain in the left upper quadrant of the abdomen, abdominal distention, postprandial emesis, and weight loss of 10 kg. Physical examination revealed a firm, tender, epigastric mass but was otherwise unremarkable. Computed tomography showed a large gastric mass extending from the fundus to the antrum (Panel A, arrow), with no indication of obstruction of the gastric outlet. Esophagogastroduodenoscopy revealed a large bezoar occluding nearly the entire stomach, without extension into the duodenum (Panel B). On questioning, the patient stated that she had had a habit of eating her hair for many years — a condition called trichophagia. Owing to the large size of the trichobezoar (37.5 by 17.5 by 17.5 cm), endoscopic removal was not an



# Soft Is Hard

Further evidence why the “soft” sciences are the hardest to do well

compiled by Alice Shirrell Kaswell and Bissell Mango, Improbable Research staff

## National Slowness of Stamp Servers, Compared

“The Pace of Life in 31 Countries,” Robert Levine, *American Demographics*, vol. 19, no. 11, November 1997, pp. 20-29. (Thanks to Peter Langston for bringing this to our attention.) The author, at California State University, Fresno, explains:

three measures of the pace of life were developed: (1) walking speed—the speed with which pedestrians in downtown areas walk a distance of 60 feet; (2) work speed—how quickly postal clerks complete a standard request to purchase a stamp; and (3) the accuracy of public clocks. My students and I have made these observations in as many countries as we have been able to get to.

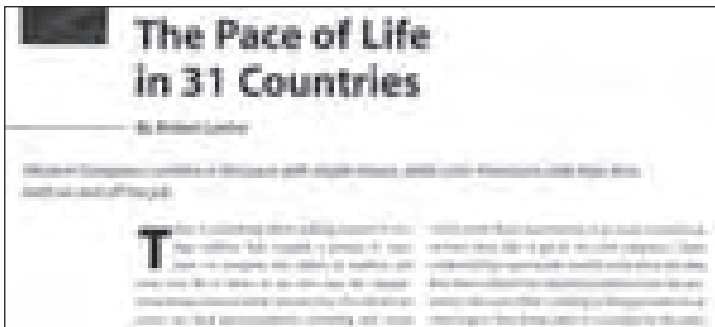


## Zero Effect for Zeros

“Does ‘000,000’ Matter? Psychological Effects of Turkish Monetary Reform,” Sonia Amado, Mert Teköznel, Yurdal Topsever, Rob Ranyard, Fabio Del Missier and Nicolao Bonini, *Journal of Economic Psychology*, vol. 28, no. 2, April 2007, pp. 154–69 (<http://dx.doi.org/10.1016/j.joep.2006.05.003>). The authors, who are variously at Ege University and Izmir University in Turkey, at Bolton University in the U.K., and at the University of Trento in Italy, report:

Turkish monetary reform, which took effect in January 2005, introduced the New Turkish Lira (NTL) by deleting six zeros from the former currency, the Turkish Lira (TL). Two experiments investigated how the introduction of the NTL might affect price estimation.... [Our results show that] there were no significant differences between TL and NTL, suggesting that Turkish consumers had quickly adapted. Such ease of adaptation is consistent with a rescaling hypothesis: when one

or more zeros are dropped from a currency, consumers rescale all prices relatively quickly rather than relearn them selectively through gradual exposure.



## Temperature May Affect Clothing Choice

“People’s Clothing Behaviour According to External Weather and Indoor Environment,” Michele De Carli, Bjarne W. Olesen, Angelo Zarrella and Roberto Zecchin, *Building and Environment*, vol. 42, no. 12, December 2007, pp. 3965–73 (<http://dx.doi.org/10.1016/j.buildenv.2006.06.038>). (Thanks to Tom Gill for bringing this to our attention.)

The impact of outdoor temperature on people’s clothing selection has been considered. The outdoor temperature at 6 a.m. seems to affect people’s choice of clothes the most. Gender does not significantly affect the selection of clothing insulation.



## Hair Length in Florida Theme Parks

“Scalp Hair Length. I. Hair Length in Florida Theme Parks: An Approximation of Hair Length in the United States of America,” Clarence Robbins, Marjorie Gene Robbins, *Journal of Cosmetic Science*, vol. 54, no. 1, January–February 2003, pp. 53–62. The authors, at Clarence Robbins Technical Consulting in Clermont, Florida, report:

Ten hair length studies were conducted (January through May of 2001) at theme parks in central Florida, by observing and counting people with different lengths of hair with reference to specific anatomical sites. We observed 13.20% of the 24,300 males and females with hair shoulder-length or longer and 2.43% with hair down to the bottom of the shoulder blades or longer. We observed only 77 persons or 0.32% with hair waist-length or longer. Only three of these 77 persons were men. We observed 22 men with hair shoulder-length or longer or about 0.18%, among men only. Only four women, representing 0.0165% of this population, had hair reaching to the bottom of the buttocks. Hairstyles such as buns, topknots, or other styles of wearing hair bound to the head did interfere with our estimate of shorter lengths but not the longer ones (waist-length or longer). Head covers, e.g., caps, hats, scarves, etc., did not interfere with these estimates.

## Managing: A Hangover

“Alcohol Hangover and Managerial Effectiveness,” Siegfried Streufert, Rosanne Pogash, Daniela Braig, Dennis Gingrich, Anne Kantner, Richard Landis, Lisa Lonardi, John Roache and Walter Severs Alcoholism, *Clinical and Experimental Research*, vol. 19, no. 5, October 1995, pp. 1141–6. The authors, at Pennsylvania State University, report:

Twenty-one male managers who normally drink moderate amounts of alcohol participated in a placebo-controlled, double-blind, cross-over experiment. Subjects consumed either placebo or alcoholic drinks to attain a breath alcohol level of 0.10 during the evening before participation in Strategic Management Simulations.... Apparently, complex decision-making competence by persons who normally consume moderate amounts of alcohol may not be impaired by hangover caused by intoxication during the previous evening that remains at or below a blood alcohol level of 0.10.

## Ownership of High-Risk (“Vicious”) Dogs as a Marker for Deviant Behaviors

### Implications for Risk Assessment

Jaclyn E. Barnes  
Cleveland Children’s Hospital Medical Center, Ohio  
Barbara W. Boat  
University of Cincinnati, Ohio  
Frank W. Putnam  
Cleveland Children’s Hospital Medical Center, Ohio  
Harold F. Dates  
Cleveland Society for the Prevention of Cruelty to Animals, Ohio  
Andrew R. Mahlman  
Cleveland Society for the Prevention of Cruelty to Animals, Ohio

This study examined the association between ownership of high-risk (“vicious”) dogs and the presence of deviant behaviors in the owners as indicated by court convictions. We hypothesized that the ownership of any dog, including training dogs, and classes of breeds could be useful

## Boat and Dates on Dogs and Deviants

“Ownership of High-Risk (‘Vicious’) Dogs as a Marker for Deviant Behaviors: Implications for Risk Assessment,” Jaclyn E. Barnes, Barbara W. Boat, Frank W. Putnam, Harold F. Dates and Andrew R. Mahlman, *Journal of Interpersonal Violence*, vol. 21, no. 12, 2006, pp. 1616–34 (<http://dx.doi.org/10.1177/0886260506294241>).

Owners of cited high-risk (“vicious”) dogs had significantly more criminal convictions than owners of licensed low-risk dogs. Findings suggest that the ownership of a high-risk (“vicious”) dog can be a significant marker for general deviance.

## Dreams From Junk

“Retrospective Reports of Dream Characteristics and Preferences for Organic vs. Junk Foods,” J. Kroth, A. Briggs, M. Cummings, G. Rodriguez and E. Martin, *Psychological Reports*, vol. 101, no. 1, August 2007, pp. 335–8. The authors, at Santa Clara University, California, report:

The authors investigated correlations between retrospective dream characteristics, food preferences, and eating attitudes. Graduate students (7 men, 42 women) at Santa Clara University were administered the MEGA food scale and the KJP Dream Inventory. High intake of organic food was positively correlated with reports of multiple dream factors. Conversely, high scores on preferences for fast food, potato chips, and carbohydrates were negatively correlated with several factors.

## Alcohol Hangover and Managerial Effectiveness

Siegfried Streufert, Rosanne Pogash, Daniela Braig, Dennis Gingrich, Anne Kantner, Richard Landis, Lisa Lonardi, John Roache and Walter Severs Alcoholism, *Clinical and Experimental Research*, vol. 19, no. 5, October 1995, pp. 1141–6.

Twenty-one male managers who normally drink moderate amounts of alcohol participated in a placebo-controlled, double-blind, cross-over experiment. Subjects consumed either placebo or alcoholic drinks to attain a breath alcohol level of 0.10 during the evening before participation in Strategic Management Simulations.... Apparently, complex decision-making competence by persons who normally consume moderate amounts of alcohol may not be impaired by hangover caused by intoxication during the previous evening that remains at or below a blood alcohol level of 0.10.

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*compiled by Stephen Drew, Improbable Research staff*

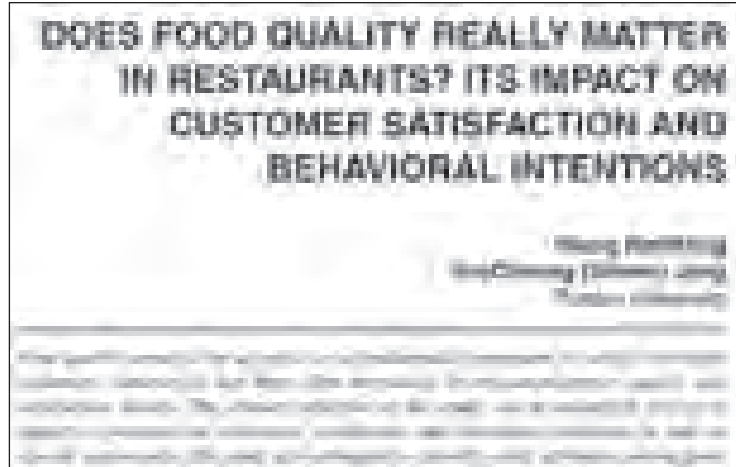
## Food Quality: So What?

“Does Food Quality Really Matter in Restaurants? Its Impact on Customer Satisfaction and Behavioral Intentions,” Y. Namkung and SooCheong Jang, *Journal of Hospitality and Tourism Research*, vol. 31, No. 3, August 2007, pp. 387–410. (Thanks to *Ellen Brancomb* for bringing this to our attention.) The authors, at Purdue University, report:

this study shows that overall food quality significantly affects customer satisfaction and behavioral intentions.

## Defending a Stereotype: Spirited Salespersons

“Workers’ Compensation and Respondant Superior Liability Legal Cases Involving Salespersons’ Misuse of Alcohol,” Judith Spain and Rosemary Ramsey, *Journal of Personal Selling and Sales Management*, vol. 20, no. 4, Fall 2000, pp. 263–69. (Thanks to *Stephen Pratt* for bringing this to our attention.) The authors are at Eastern Kentucky University.



## Problems in the Singularly Perturbed

“Some Problems in the Theory of Singularly Perturbed Equations,” A.N. Filatov, *Differential Equations*, vol. 21, no 10, October 1985, pp. 1162–5.

*We welcome your suggestions for this column. Please enclose the full citation (no abbreviations!) and, if possible, a copy of the paper.*

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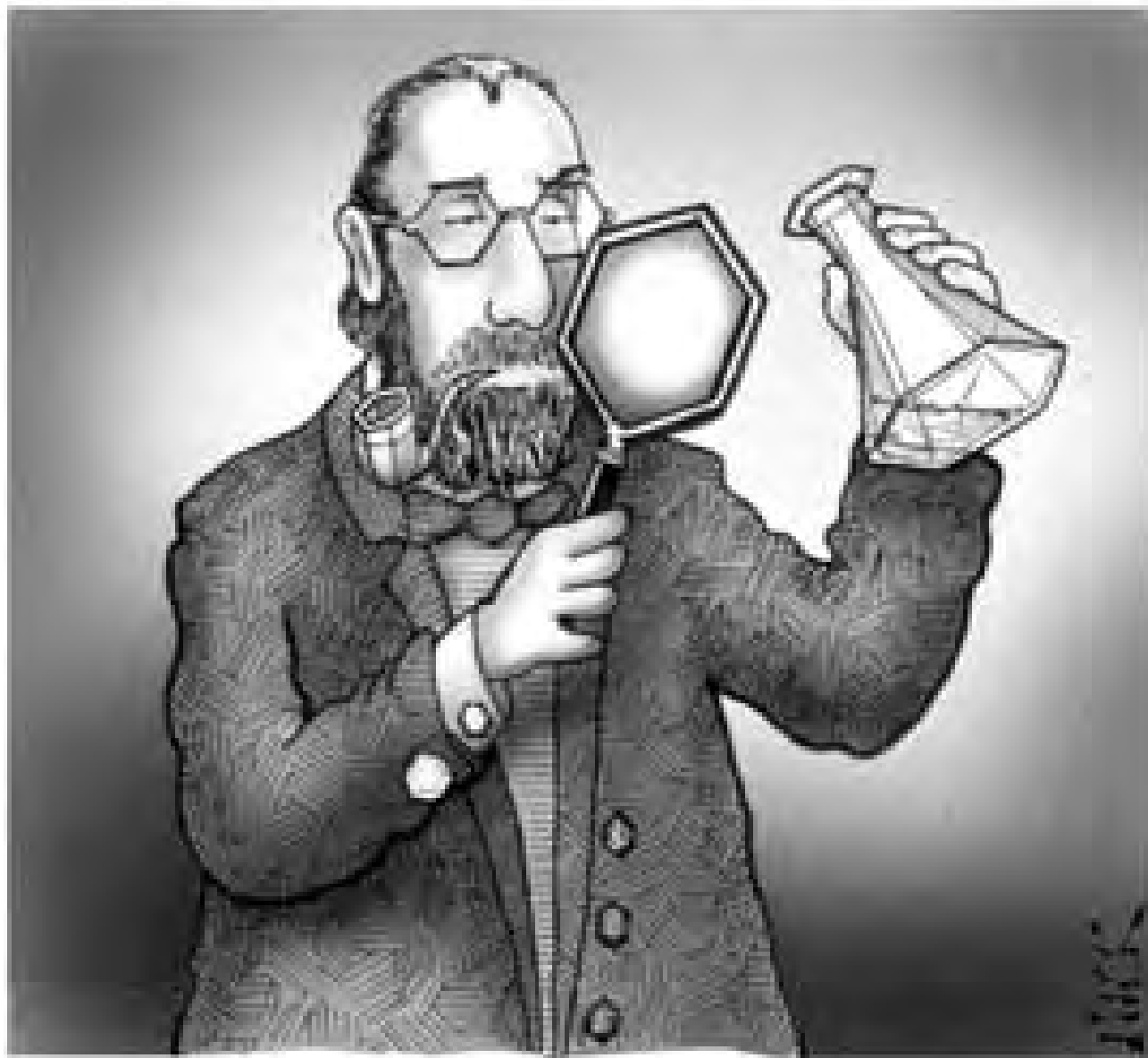
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*Annals of Improbable Research* (ISSN 1079-5146 print / 1935-6862 online) is published six times per year (Jan./Feb., Mar./Apr., May/June, July/Aug., Sep./Oct., Nov./Dec.) by

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P.O. Box 380853,  
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ISSN 1079-5146 print / 1935-6862 online  
Volume 14, Number 3  
May–June 2008

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