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Special
Issue:

ANNALS OF

**IMPROBABLE
RESEARCH**



**The 2007 Ig Nobel
Prizes**



**Sword Swallowing,
the Gay Bomb,
and much more...**



NOVEMBER | DECEMBER 2007 (v. 13, n. 6) \$6.50 US | \$9.50 CAN

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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*



Moments after the 2007 Ig Nobel Prize Ceremony at Harvard's Sanders Theatre, several of the winners posed with their prizes. As per tradition (and necessity), the winners traveled to Sanders Theatre at their own expense. Front row, left to right: Biology Prize winner Dr. Johanna E.M.H. van Bronswijk from The Netherlands, Chemistry Prize winner Mayu Yamamoto from Japan, and Literature Prize winner Glenda Brown from Australia. Second row, left to right, Medicine Prize co-winners Brian Witcombe from England and Dan Meyer from the United States. Photo: Kees Moeliker.

Contents

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.



Special Section: The 2007 Ig Nobel Prizes

- IFC Five Ig Winners*
- 6 The 17th First Annual Ig Nobel Prize Ceremony*—*Stephen Drew*
- 8 The 2007 Ig Nobel Prize Winners*
- 11 The Ig Nobel Acceptance Speeches*
- 15 The Nano-Lectures*
- 16 The 24/7 Lectures*
- 18 Libretto: “Chicken versus Egg”*—*W.A. Mozart and M. Abrahams*



Dr. Karen Hopkin narrates the mini-opera “Chicken versus Egg” at the Ig Nobel ceremony. Photo: David Holzman.

Improbable Research

- 24 Evidence of Continental Drift, in Highway Road Signs*—*Tim Palucka*

Improbable Research Reviews*

- 4 Improbable Research Review*—*Dirk Manley*
- 5 Improbable Medical Review*—*Bertha Vanatian*
- 23 May We Recommend*—*Stephen Drew*
- 26 Soft Is Hard*—*Alice Shirrell Kaswell and Bissell Mango*
- 29 Boys Will Be Boys*—*Katherine Lee*

News & Notes

- 2 AIR Vents (letters from our readers)
- 27 AIR books
- 28 Teachers' Guide
- 28 HMO-NO News: Leeches!
- 30 Bends on the Learning Curve—*Richard Lederer*
- 31 CARTOON: “Selfish Bastard Lewis”—*Nick Kim*
- 31 Back Issues
- IBC Unclassified Ads

On the Front Cover

At the 2007 Ig Nobel Prize Ceremony, Medicine Prize winners Dan Meyer (with sword in throat) and Dr. Brian Witcombe (without) near the conclusion of their one-minute-long acceptance speech. Photo: Alexey Eliseev.

On the Back Cover

An unidentified man in the audience at the Ducal Palace in Genoa during the Ig Nobel session held on Friday night, October 26, as part of the Genoa Science Festival. Photo: Robin Abrahams.

Coming Events

(see WWW.IMPROBABLE.COM for details of these and other events)

- Imperial College London—November 2007
- AAAS Annual Meeting, Boston—February 2007
- Ig Nobel Tour of the UK—March 2007

Every Day

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

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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.

The Philosopher and the Fish

Your journal is published in the United States. That nation

U.S.A. Department of State. It was accompanied by a letter that instructed me that the man in the photograph is holding a sturgeon fish. The letter asked me to provide “as much information as you possess” about the fish and also about “any co-workers, associates or family members” of the fish. The letter neither asked for nor provided any information about the man.

I am a retired professor of philosophy. I know little about fish in general, and almost nothing about sturgeon fish in particular. I have had no contact previously with anyone in the U.S.A. Department



officially does strange things. Here is a photograph sent to me by a high official in the

of State or with any co-workers, associates or family members of anyone in the U.S.A. Department of State. I am baffled about why this high official sent me this letter. When I attempted to contact this official by letter, by telephone and by email, I received only a demand that I submit

a copy of my passport. My own government’s officials



tell me simply that the U.S.A. Department of State has “some peculiar persons” working for it. I am writing to you because I know you specialize in knowing things about peculiar persons. Can you or your readers tell me anything—anything at all—about the letter I received, or about the man or the fish?

*Manuela Grossi
Pisa, Italy*

The Gall of Phrenology

After thirty years, faithful readers depend on accuracy on your pages. Thus were we deeply wounded in reading your issue about Phrenology (*AIR* 13:4) to find that your Stephen Drew thinks this venerable and important field of scholarship had its origins in the works of a mere 200 years ago. He claims that Franz Joseph Gall is the “father of phrenology.”

No, no, no. At the very

least, phrenology dates to the artistic and scientific work of Giovanni Battista Della Porta (1598), whose tome *Della Fisonomia dell Uomo* was published in Naples. It included many beautiful engravings. In one illustration—here is a copy of it—Dr. Porta explains that persons with wide nasal flaring are prone to being strong and short-tempered. He quotes Aristotle on this point, but notes that Arabic scholars were not in agreement on it. Other studies involved human faces that are similar to those of a bird, monkey, lion, rhinoceros, cow, pig, etc.

The ways in which our personalities are governed by our physiognomy, and reflect both genetics and environmental influences, have been appreciated for a long time. Those whose wisdom brought this awareness to the scientific community included men of genius and courage, such as Della Porta, who



published in the vernacular (Italian) at a time when purists insisted that Latin was the language of scholarship.

Mel in Barcelona: Conclusion

I am so sorry. I am so sorry. Once again—but for the final time—I must ask you to publish a correction. I have set a record that I never intended to set; many people make long series of errors, but almost none of them discuss it in public. So here is the seventh or so—and final—in the series of corrections I have been forced to make to the photograph from our archives that shows Mel (the little bearded man who keeps appearing, albeit posthumously, in your letters column) during his brief visit to the city of Barcelona in 1929. My colleagues and I have now determined, after many nights and days of careful labor with microscopes and recognition software, that al of the men indicated in my previous letters as being Mel are not Mel. each of them is someone other than Mel. As I wrote in my previous letters, “Unfortunately he is not facing directly the camera, so the identification cannot be 100 percent.” I have drawn a line through all of the people I previously identified as Mel. I hope you can print this corrected corrected corrected corrected corrected photograph. I am so sorry.

Please in the future honor our faith in you by being more careful about your attributions of priority.

*Robert Roger Lebel, MD,
FACMG
Greenwood Genetic Center,
Greenwood, SC, USA
and
Giuseppe Pietro Logrieco
Università di Bari, Facoltà
di Medicina e Chirurgia
Bari, Italy*

*Ramon Corbut
Senior Archivist
Archives of the Brothers of
Historical Institute
Barcelona, Spain*

A Guide to the Stars

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

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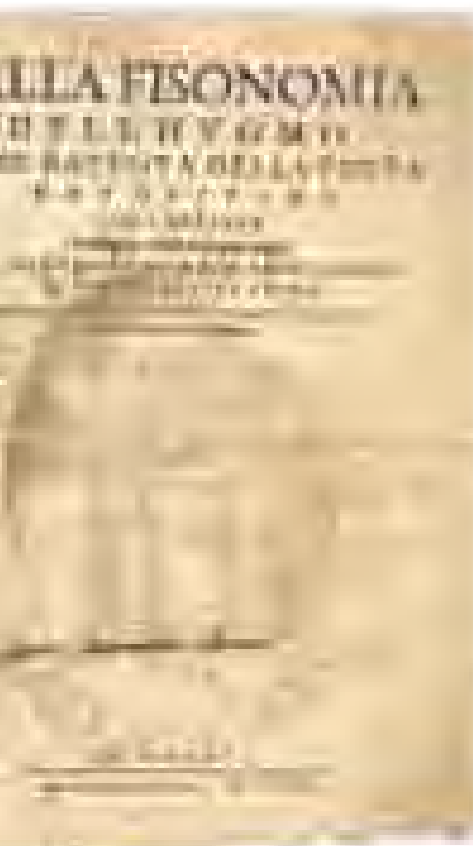
Stochastic Processes

(selected at random from amongst our subscribers)

Jutta Studer, Duebendorf, Germany

Women's Health

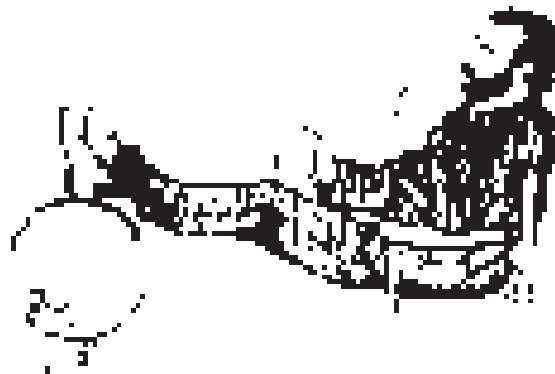
Andrea Dunaif, Northwestern U.
JoAnn Manson, Brigham & Women's Hosp.



Improbable Research Review

Improbable theories, experiments, and conclusions

compiled by Dirk Manley, *Improbable Research* staff



The Curly and the Straight

“Why Does Curly Hair Get Less Tangled than Straight Hair?”

Jean-Baptiste Masson, *American Journal of Physics*, vol. 75, no. 8, August 2007, pp. 701–6. (Thanks to Tom Roberts for bringing this to our attention.) The author, at Ecole Polytechnique in Palaiseau, France, reports:

We address the question of hair tangles and show experimentally that curly hair tends to become less tangled than straight hair. A statistical model based on geometry confirms our findings. The model gives an interesting geometric approach to hair behavior.

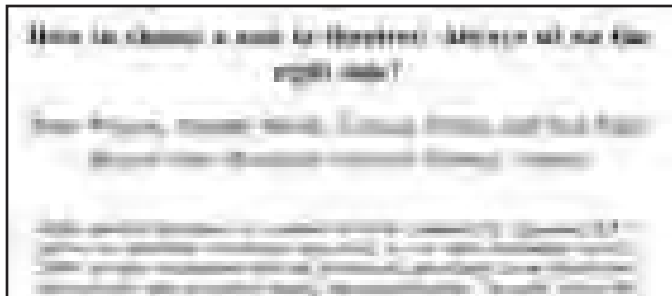


Garlic Breath Explained

“Garlic Breath Explained: Why Brushing Your Teeth Won’t Help,” W.L. Hasler, *Gastroenterology*, vol. 117, no. 5, November 1999, pp. 1248–50. (Thanks to Alexander Biondo and Helio Aufran de Morais for bringing this to our attention.)

Lard Variables

“Effect of Certain Variables in Technique on the Breaking Strength of Lard Pastry Wafers,” V. Swartz, *Cereal Chemistry*, vol. 20, 1943, p. 121.



Why Go Right

“How to Choose a Seat in Theatres: Always Sit on the Right Side?” Peter Weyers, Annette Milnik, Clarissa Müller and Paul Pauli, *Laterality*, vol. 11, no. 2, March 2006, pp. 181–93. The authors, at Bavarian Julius-Maximilians University Würzburg, Germany, report:

In order to determine seat-side preferences, participants in our experiments had to choose seats on cinema, theatre, and restaurant maps. The

maps varied with respect to cinema screen, theatre stage, and restaurant entrance positions as viewed by the participants: on top, to the right, to the left, and at the bottom.... Seat choice seems to be determined by basic behavioural tendencies, such as which side to turn to when entering a room, or by visual attentional orientation.

Advances in Pig Output Analysis

“Quantification of Odours from Piggery Effluent Ponds Using an Electronic Nose and an Artificial Neural Network,” J.H. Sohn et al., *Biosystems Engineering*, vol. 86, no. 4, December 2003, pp. 399–410. (Thanks to Kristine Danowski for bringing this to our attention.)

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

Improbable Medical Review

Improbable diagnoses, techniques, and research

compiled by Bertha Vanatian, *Improbable Research staff*



Intravenous Use of Coconut Water

DARILYN CAMPBELL, MD,¹ TAMARA THOMAS, MD,¹ TROY M. FALCK, MD,¹ NARCO TUTUO, MD,¹ AND KATHLEEN CLEM, MD²

OBJECTIVE: To report the successful use of coconut water as a short-term intravenous hydration fluid for a Solomon Island patient, a laboratory analysis of the local coconuts, and a review of previously documented intravenous coconut use.

From Nuts to Vein

“The Intravenous Use of Coconut Water,” Darilyn Campbell-Falck, Tamara Thomas, Troy M. Falck, Narco Tutuo and Kathleen Clem, *American Journal of Emergency Medicine*, vol. 18, no. 1, January 2002, pp. 108–11. The authors, who are at the Department of Emergency Medicine, Loma Linda University Medical Center, California, explain:

We report the successful use of coconut water as a short-term intravenous hydration fluid for a Solomon Island patient, a laboratory analysis of the local coconuts, and a review of previously documented intravenous coconut use.

The Moon and Medicos

“The Effect of the Full Moon on General Practice Consultation Rates,” Richard D. Neal and Malcolm Colledge, *Family Practice*, vol. 17, no. 6, 2000, pp. 472–4. (Thanks to Gail Kinman for bringing this to our attention.)

There was a statistically significant, but small, effect associated with the lunar cycle of 1.8% of the mean value. This equates to an average difference between the two extremes during the cycle of 3.6%. For this data set, this accounts for 190 more consultations on days at the peak of the cycle compared with those at the bottom of the cycle, or, put another way, about three consultations per practice.

The effect of the full moon on general practice consultation rates

Richard D Neal and Malcolm Colledge

Neal RD and Colledge SJ. The effect of the full moon on general practice consultation rates. *Family Practice* 2000; 17: 472-474.

Background. The effect of the full moon on human behaviour, the so-called ‘lunatic moon’ has fascinated the public and occupied the mind of researchers for centuries.

Objective. The aim of the present study was to determine whether or not there was any change in general practice consultation patterns around the time of the full moon.

Method. We analysed data from the fourth national morbidity study of general practice. The data set was split into four groups and analysed separately: consultations on ordinary working days, consultations on ordinary weekend days, consultations on ordinary holiday days and consultations on ordinary bank holiday days.

Fronto-parietal network for chewing of gum: a study on human subjects with functional magnetic resonance imaging

Toshihisa Takada¹, Tamaki Miyamoto²

¹Department of Oral and Maxillofacial Surgery, Hokkaido University, 5-1-8 Aomori 980-8585, Japan; ²Department of Oral and Maxillofacial Surgery, Hokkaido University, 5-1-8 Aomori 980-8585, Japan

Gum (brain)

“A Fronto-Parietal Network for Chewing of Gum: A Study on Human Subjects with Functional Magnetic Resonance Imaging,” Toshihisa Takada and Tamaki Miyamoto, *Neuroscience Letters*, vol. 360, no. 3, 2004, pp. 137–40. (Thanks to Jen Kulak for bringing this to our attention.) The authors are at Hokkaido University, Sapporo, Japan.

Gum (brawn)

“Post-Operative Optimization of Gum-Chewing Kinematics in a Prognathic Patient,” K. Yashiro and K. Takada, *Orthodontics and Craniofacial Research*, vol. 7, no. 1, February 2004, pp. 47–54. The authors, who are at Osaka University, Japan, report that:

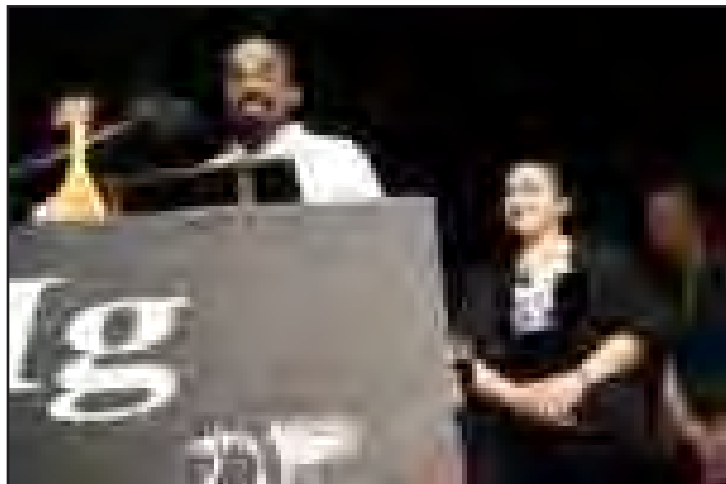
The irregularity in acceleration/deceleration of jaw closing movement during gum chewing was quantified by the movement jerk-cost, where the jerk is rate of change in movement acceleration/deceleration.

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

The 17th First Annual Ig Nobel Prize Ceremony

by Stephen Drew, *Improbable Research* staff

NOTE: To see video of the entire ceremony, see the Improbable Research web site: www.improbable.com.



The Physics Prize acceptance speech. Photo: Kees Moeliker.

William Lipscomb (Chemistry 1976), Craig Mello (Physiology or Medicine 2006), Robert Laughlin (Physics 1988) and Roy Glauber (Physics 2005). Laughlin was the prize in the annual Win-a-Date-With-a-Nobel-Laureate Contest.

Stalwart veteran mopster Glauber was joined by Sarah Lichtblau, our newest Keeper of the Mop. Together they kept the stage sufficiently free of paper airplanes that the ceremony could proceed safely.

The event was produced by the *Annals of Improbable Research*, and co-sponsored by the Harvard-Radcliffe Science Fiction Association, the Harvard-Radcliffe Society of Physics Students and the Harvard-Radcliffe Computer Society.



The winner of the Win-a-Date-With-a-Nobel-Laureate Contest claims her prize: Nobel Laureate Robert Laughlin. Photo: David Holzman.

The 2007 Ig Nobel Prizes, honoring achievements that first make people LAUGH and then make them THINK, were awarded at Harvard University's historic Sanders Theatre on October 4, before 1,200 spectators. This was the 17th First Annual Ig Nobel Prize Ceremony.

Seven of the ten new winners journeyed to Harvard—at their own expense—to accept their Prizes. The co-winners of the Linguistics Prize were unable to travel, and so delivered their speech via video.

Ignitaries in Bulk

The Ig Nobel Prizes were physically handed to the winners by Nobel Laureates Dudley Herschbach (Chemistry 1986),

Returning winner Dr. Francis Fesmire, who devised the use of digital rectal massage to terminate intractable hiccups. Photo: David Holzman.



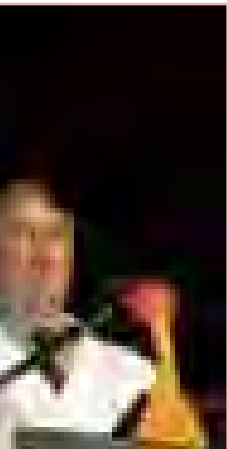
The logo of the 2007 Ig Nobel Prize ceremony reflects the year's theme: chicken.

The too-numerous Ignitaries were herded, politely yet firmly, by Ig Nobel Majordomo Gary Dryfoos and Minordomos Julia Lunetta, James Mahoney, Anna Eliseeva, Peaco Todd, Chace Vanderwolk and Natasha Rosenberg. (For a complete list of ceremony participants, see the official program, *IgBill*, a copy of which may or may not be on our web site.)

Chickens in Bulk

The evening also featured numerous tributes to the evening's theme of CHICKEN. Foremost were the 24/7-Lectures, in which famous thinkers explained their field of research, first in twenty-four (24) seconds, and then in seven (7) words. There was also a pair of nano-lectures about aspects of CHICKEN (see the article "The Nano-Lectures" elsewhere in this issue).

Doug Zongker, author of the six-page-long study "Chicken Chicken Chicken: Chicken Chicken" (originally published in *AIR* 12:5), delivered the keynote address—a two-minute version of the study, complete with Powerpoint slides.



The night also featured the premiere of a new mini-opera called “Chicken versus Egg” (see the libretto, elsewhere in this issue).

Triumphant Returns of Past Winners

Several past Ig Nobel winners also participated in the ceremony, each giving a brief, personal tribute to the concept of CHICKEN.

Kees Moeliker, the 2003 Ig Nobel Biology Prize winner (for writing the world’s first scientific account of homosexual necrophilia in the mallard duck), helped translate portions of the ceremony into Dutch. He teamed with other linguists who simultaneously translated the proceedings into Farsi, Russian, German, Turkish, Japanese and Body Language, all of them speaking simultaneously into the same microphone. Their translations were coordinated by Karen Hopkin, creator of the Studmuffins of Science Calendar. Hopkin also narrated the mini-opera.



Throughout the 90-minute-long ceremony, the majordomo ate a bowl of soup. When the Nutrition Prize was announced, the audience suddenly understood how and why that was possible. Photo: Kees Moeliker.

Don Featherstone, the 1996 Ig Nobel Art Prize winner (for creating the now-ubiquitous plastic pink flamingo), and his wife, Nancy, and their little dog returned to Sanders Theatre to take a bow. They were greeted with rapturous applause.

Gauri Nanda, the 2005 Ig Nobel Economics Prize winner (for inventing an alarm clock that runs away and hides repeatedly), demonstrated her invention. She was greeted with rapturous applause.

Dr. Francis Fesmire, a 2006 Ig Nobel Medicine Prize winner (for his medical report “Termination of Intractable Hiccups with Digital Rectal Massage”), distributed hiccup cure kits. He was greeted with rapturous, if apprehensive, applause.

Speeches in Bulk

Each new winner (or team of winners) was permitted a maximum of sixty (60) seconds to deliver an acceptance speech; the time limit was enforced by Miss Sweetie Poo, a cute, undauntable eight-year-old girl.

The ceremony began with Professor Jean Berko Gleason, of Boston University, delivering the traditional Welcome Welcome speech (which consisted in its entirety of the the phrase “Welcome, welcome”). It closed with the traditional salute, “If you didn’t win an Ig Nobel prize tonight—and especially if you did—better luck next year.”

Two days after the ceremony, the winners assembled at the Massachusetts Institute of Technology for the Ig Informal Lectures to explain, if they could, what they did and why they did it. Each winner or team gave a five-minute talk and answered questions from the audience.

NEXT YEAR’S CEREMONY: The 18th First Annual Ig Nobel Prize Ceremony will occur on Thursday night, October 2, 2008, at Sanders Theatre. Tickets will go on sale in August. The Ig Informal Lectures will

happen two days later, on Saturday afternoon, October 4, 2008.



The 2007 Ig Nobel Prize—a chicken that is both emerging from the inside of its egg and beginning to eat the egg from the outside. The prizes, made of exceedingly cheap materials, are hand-built by Eric Workman. Photo: S. Drew.



The 2007 Ig Nobel Prize Winners

Here are the winners of the 2007 Ig Nobel Prizes. For further details, including links to many of the winners' web sites and video of the entire ceremony, see the Improbable Research web site: www.improbable.com.

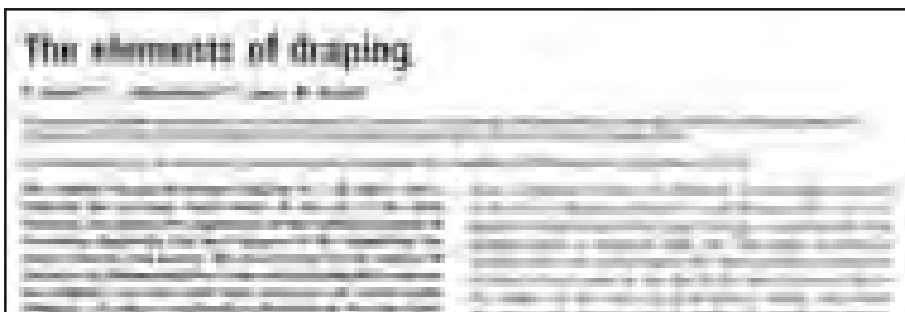
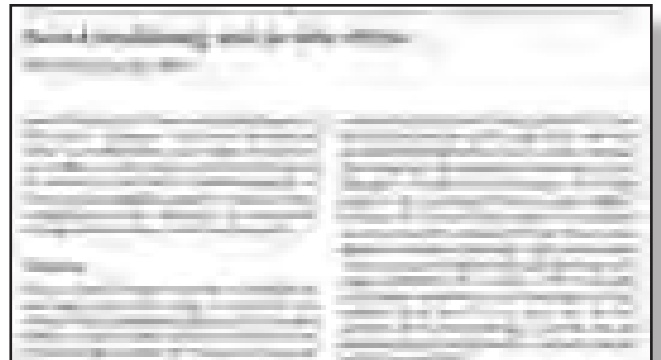
MEDICINE PRIZE

Brian Witcombe of Gloucester, U.K., and Dan Meyer of Antioch, Tennessee, U.S.A., for their penetrating medical report "Sword Swallowing and Its Side Effects."

REFERENCE: "Sword Swallowing and Its Side Effects," Brian Witcombe and Dan Meyer, *British Medical Journal*, vol. 333, December 23, 2006, pp. 1285–7.

WHO ATTENDED THE CEREMONY: Brian Witcombe and Dan Meyer.

NOTE: Prior to coming to the Ig Nobel Prize Ceremony, the two co-winners never actually met each other -- they collaborated via telephone and email.



PHYSICS PRIZE

L. Mahadevan of Harvard University, U.S.A., and Enrique Cerda Villablanca of Universidad de Santiago de Chile, for studying how sheets become wrinkled.

REFERENCE: "Wrinkling of an Elastic Sheet Under Tension," E. Cerda, K. Ravi-Chandar and L. Mahadevan, *Nature*, vol. 419, October 10, 2002, pp. 579–80.

REFERENCE: "Geometry and Physics of Wrinkling," E. Cerda and L. Mahadevan, *Physical Review Letters*, vol. 90, no. 7, February 21, 2003, pp. 074302/1–4.

REFERENCE: "Elements of Draping," E. Cerda, L. Mahadevan and J. Passini, *Proceedings of the National Academy of Sciences*, vol. 101, no. 7, 2004, pp. 1806–10.

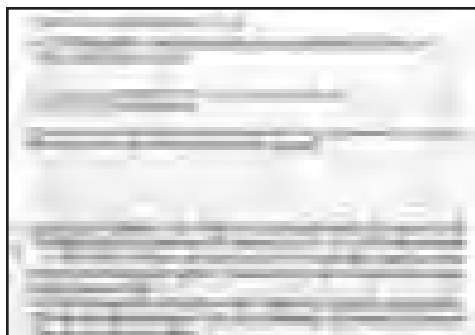
WHO ATTENDED THE CEREMONY: Lakshminarayanan Mahadevan, and Enrique Cerda Villablanca's sister Mariela.



BIOLOGY PRIZE

Prof. Dr. Johanna E.M.H. van Bronswijk of Eindhoven University of Technology, The Netherlands, for doing a census of all the mites, insects, spiders, pseudoscorpions, crustaceans, bacteria, algae, ferns and fungi with whom we share our beds each night.

REFERENCE: "Huis, Bed en Beestjes" [House, Bed and Bugs], J.E.M.H. van Bronswijk, *Nederlands Tijdschrift voor Geneeskunde*, vol. 116, no. 20, May 13, 1972, pp. 825–31.





REFERENCE: “Het Stof, de Mijten en het Bed” [Dust, Mites and Bedding]. J.E.M.H. van Bronswijk, *Vakblad voor Biologen*, vol. 53, no. 2, 1973, pp. 22–5.

REFERENCE: “Autotrophic Organisms in Mattress Dust in the Netherlands,” B. van de Lustgraaf, J.H.H.M. Klerkx and , J.E.M.H. van Bronswijk, *Acta Botanica Neerlandica*, vol. 27, no. 2, 1978, pp 125–8.

REFERENCE: “A Bed Ecosystem,” J.E.M.H. van Bronswijk, *Lecture Abstracts -- 1st Benelux Congress of Zoology, Leuven*, November 4–5, 1994, p. 36.



WHO ATTENDED THE CEREMONY:

Dr. Johanna E.M.H. van Bronswijk.

CHEMISTRY PRIZE

Mayu Yamamoto of the International Medical Center of Japan, for developing a way to extract vanillin—vanilla fragrance and flavoring—from cow dung.

REFERENCE: “Novel Production Method for Plant Polyphenol from Livestock Excrement Using Subcritical Water Reaction,” Mayu Yamamoto, International Medical Center of Japan.

WHO ATTENDED THE CEREMONY: Mayu Yamamoto.

NOTE: Toscanini’s Ice Cream, the finest ice cream shop in Cambridge, Massachusetts, created a new ice cream flavor in honor of Mayu Yamamoto. The flavor is called “Yum-a-Moto Vanilla Twist.” Toscanini’s offered a free public tasting on the day after the ceremony.



LINGUISTICS PRIZE

Juan Manuel Toro, Josep B. Trobalon and Núria Sebastián-Gallés, of Universitat de Barcelona, for showing that rats sometimes cannot tell the difference between a person speaking Japanese backwards and a person speaking Dutch backwards.

REFERENCE: “Effects of Backward Speech and Speaker Variability in Language Discrimination by Rats,” Juan M. Toro, Josep B. Trobalon and Núria Sebastián-Gallés,

Journal of Experimental Psychology: Animal Behavior Processes, vol. 31, no. 1, January 2005, pp. 95–100.

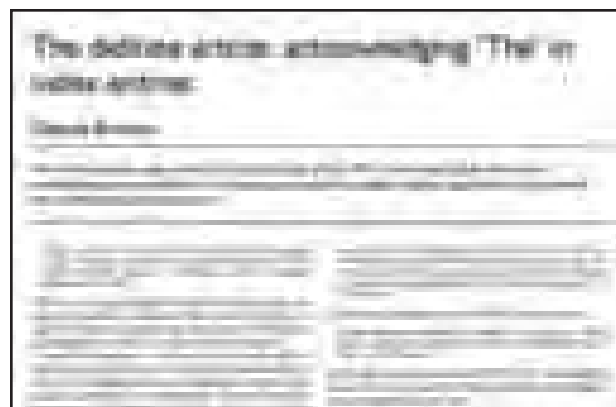
WHO ATTENDED THE CEREMONY: The winners could not travel to the ceremony, so they instead delivered their acceptance speech via recorded video.

LITERATURE PRIZE

Glenda Browne of Blaxland, Blue Mountains, Australia, for her study of the word “the” and of the many ways it causes problems for anyone who tries to put things into alphabetical order.

REFERENCE: “The Definite Article: Acknowledging ‘The’ in Index Entries,” Glenda Browne, *The Indexer*, vol. 22, no. 3, April 2001, pp. 119–22.

WHO ATTENDED THE CEREMONY: Glenda Browne.





PEACE PRIZE

The Air Force Wright Laboratory, Dayton, Ohio, U.S.A., for instigating research and development on a chemical weapon—the so-called “gay bomb”—that will make enemy soldiers become sexually irresistible to each other.

REFERENCE: “Harassing, Annoying, and ‘Bad Guy’ Identifying Chemicals,” Wright Laboratory, WL/FIVR, Wright Patterson Air Force Base, Ohio, June 1, 1994, <<http://www.sunshine-project.org/incapacitants/jnlwdpdf/wpafbchem.pdf>>.

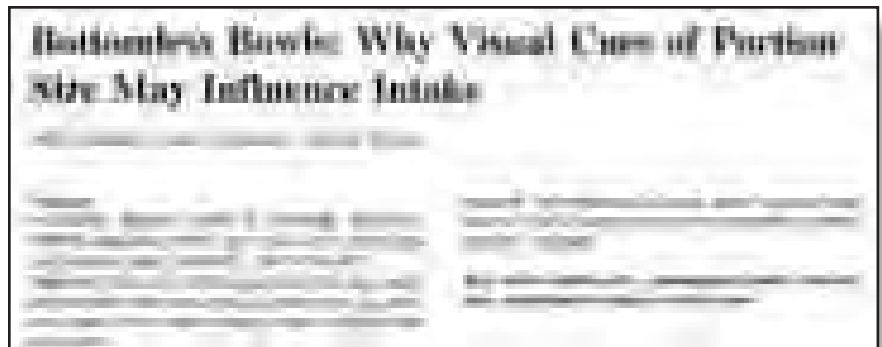
NUTRITION PRIZE

Brian Wansink of Cornell University, for exploring the seemingly boundless appetites of human beings, by feeding them with a self-refilling, bottomless bowl of soup.

REFERENCE: “Bottomless Bowls: Why Visual Cues of Portion Size May Influence Intake,” Brian Wansink, James E. Painter and Jill North, *Obesity Research*, vol. 13, no. 1, January 2005, pp. 93–100.

REFERENCE: *Mindless Eating: Why We Eat More Than We Think*, Brian Wansink, Bantam Books, 2006, ISBN 0553804340.

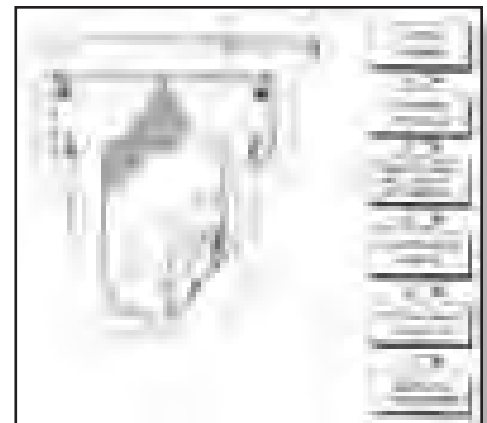
WHO ATTENDED THE CEREMONY: Brian Wansink.



ECONOMICS PRIZE

Kuo Cheng Hsieh, of Taichung, Taiwan, for patenting a device, in the year 2001, that catches bank robbers by dropping a net over them.

REFERENCE: U.S. patent #6,219,959, granted on April 24, 2001, for a “net trapping system for capturing a robber immediately.”

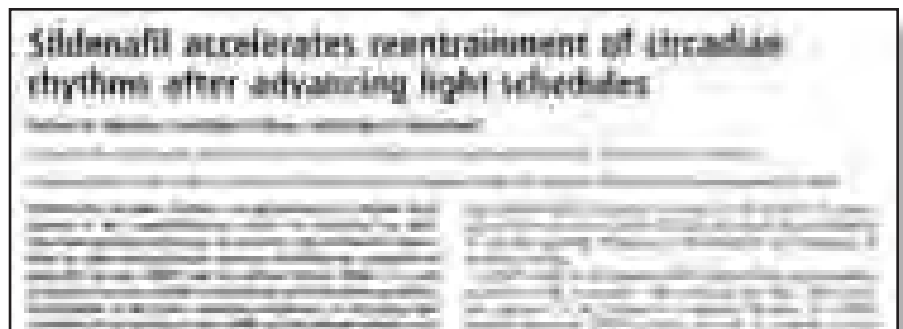


AVIATION PRIZE

Patricia V. Agostino, Santiago A. Plano and Diego A. Golombek of Universidad Nacional de Quilmes, Argentina, for their discovery that Viagra aids jetlag recovery in hamsters.

REFERENCE: “Sildenafil Accelerates Reentrainment of Circadian Rhythms After Advancing Light Schedules,” Patricia V. Agostino, Santiago A. Plano and Diego A. Golombek, *Proceedings of the National Academy of Sciences*, vol. 104, no. 23, June 5, 2007, pp. 9834–9.

WHO ATTENDED THE CEREMONY: Diego A. Golombek.



The Ig Nobel Acceptance Speeches

transcribed by Rose Fox, Improbable Research staff

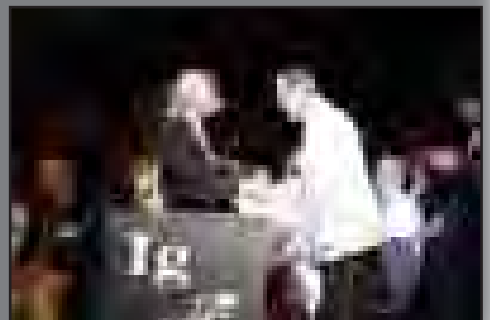
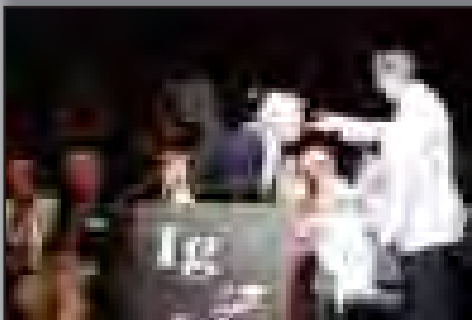
NOTE: To see video of these speeches, and of the entire ceremony, see the Improbable Research web site: www.improbable.com.

MEDICINE

Brian Witcombe and Dan Meyer (“Sword Swallowing and Its Side Effects”)

BRIAN WHITCOMBE: Ladies and gentlemen: Knowledge often advances when people from different fields of activity come together to look at an issue of mutual interest from different perspectives, and so it was with this study. A semi-retired hospital radiologist who had an occasional interest in patients with swallowing disorders—that’s me—came into contact with one of the world’s greatest sword swallowers, Dan Meyer. Dan Meyer is not only an outstanding sword swallower, with the U.S. record for swallowing swords underwater, but he also maintains a comprehensive database of over 100 sword swallowers in more than 16 countries, and this formed the basis of our survey. I am extremely grateful for Dan for his energetic and meticulous and sometimes humorous input, and we are both of course extremely grateful for those who have bestowed this great honor upon us. Finally, we are also grateful to our peer reviewer, Dr. Katherine Grebenick, a London consultant cardiothoracic anesthetist, who recommended publication of our paper to the *British Medical Journal* editors, saying our paper was “a cut above many others,” “added to the incisive body of literature on sword swallowing,” and she wrote it “made its points well” and “would keep the BMJ at the cutting edge of sword-swallowing literature.” And finally, we are of course grateful to all the members of the sword-swallowing fraternity and our medical colleagues.

DAN MEYER [Mr. Meyer plunged a sword down his throat, then leaned toward the microphone and said:]: Thank you very much. [Mr. Meyer then turned and bowed toward Dr. Witcombe. Dr. Witcombe withdrew the sword from Mr. Meyer’s throat.]



Medicine Prize winners Dan Meyer (dark jacket) and Brian Witcombe (light jacket) end their acceptance speech with a flourish. Photos: Alexey Eliseev.

PHYSICS

L. Mahadevan and Mariela Cerda Villablanca, sister of co-winner Enrique Cerda Villablanca (how sheets become wrinkled)

MARIELA CERDA VILLABLANCA: My brother dedicates his Ig Nobel Prize to all the wrinkled people in the world, especially to our beautiful grandmother. Thank you.

L. MAHADEVAN: Wrinkle, wrinkle on my skin.

How, I wonder, did you begin?

By sagging and swelling and shrinking too

While stretching and bending were mixed into a brew

Till aha! A formula that fits on a pin.

How infinitely familiar, how far from understood our environment is. And no one reminds us of this every day besides our children, so I thank them all, particularly our two, Kausalya and Aditya.

Wrinkle, wrinkle on my skin.

Where, I wonder, did I sin?

Celebrated in art and drapery

Until aha! Ruined by surgery

And then, just a has-been.



Mariela Cerda Villablanca, sister of co-winner Enrique Cerda Villablanca, and L. Mahadevan accept the Ig Nobel Physics Prize from Nobel Physics Prize winner Robert Laughlin. Photo: Kees Moeliker.

BIOLOGY

Johanna E.M.H. van Bronswijk (a census of all the creatures with whom we share our beds each night)

JOHANNA E.M.H. VAN BRONSWIJK: As a byproduct of allergy studies that I started as a student thirty years ago, I found that you never sleep alone. Nature does not stop at the windowsill. We are only one organism in the midst of millions in the dwelling community. In the seat you are using now, mice are following your sweat to the far sides of the cushions. It's a little worse on the chairs because they are textiles, but also the other seats have this program. Our daily production of 1 to 1.5 grams of skin cells feeds mice, fungi, bacteria and algae, and when humidity in air or textiles is a little higher, also lice. Sometimes one or two young cockroaches intermingle.

MISS SWEETIE-POO: Please stop. I'm bored. Please stop. I'm bored. Please stop. I'm bored.

JOHANNA E.M.H. VAN BRONSWIJK [hastily]: It is with much pleasure that I accept this prize and hope it will help public understanding of the natural processes we belong to. Thank you.

CHEMISTRY

Mayu Yamamoto (extracting vanillin from cow dung)

MAYU YAMAMOTO: Thank you. Please imagine what kind of smell you get when cow dung are heated. Can you imagine that? It is very strange and sweet. Please eat ice cream with cow dung. Thank you.

Chemistry Prize winner Mayu Yamamoto accepts her prize from Nobel Chemistry Prize winner William Lipscomb. Photo: David Holzman.





The Nobel Laureates analyze the new ice cream flavor—Yum-a-Moto Vanilla Twist—created by Toscanini’s Ice Cream in honor of Mayu Yamamoto. Photos: Kees Moeliker.

LINGUISTICS

Juan Manuel Toro, via recorded video (rats sometimes cannot tell the difference between a person speaking Japanese backwards and a person speaking Dutch backwards)

JUAN MANUEL TORO [in a hammock]: I’m sorry I can’t go to Boston to receive an award, but as you can see I am very busy right now running some experiments. Now, seriously, language discrimination is a very interesting topic, basically, because [unintelligible] we all share with animals, such as this one here [points to rat]. The basic idea is that for everybody, it is very easy to discriminate between an English sentence, such as this one, and a Spanish sentence [speaks in Spanish]. But it is not so easy to discriminate between them when they are played backwards, as in here [recording runs briefly backwards]. This is basically because in backwards speech, some very important features are lost. But the real interesting point is that the same processing constraints are found in human adults, in human infants, in tamarind monkeys, and even in rats. So anyway, for us it is a pleasure and an honor to join the club of the Ig Nobel winners, and thank you so much for the prize. Ciao.



Linguistics Prize co-winner Juan Manuel Toro delivers his acceptance speech via recorded video. Photo: Kees Moeliker.



Literature Prize winner Glenda Browne delivers her acceptance speech. Behind her, the Nobel Laureates continue eating their special vanilla ice cream. Photo: Kees Moeliker.

LITERATURE

Glenda Browne (the “the” problem)

GLEND A BROWNE: Thank you. I work as an indexer, the person who creates the A-to-Z access points at the back of books, magazines, websites, journals, online help, just about anywhere. Few people know that indexers exist and even fewer know that we worry ceaselessly about how to alphabetize our entries so you can find what you need. “The” is a case in point. It’s a funny little word that sometimes matters and sometimes doesn’t. We sort the Bible and the Beatles at B, but the Hague and *The Camel’s Hump Is an Ugly Lump* at T, and that’s before you get to terms like the Pill, the deaf, the undead. So, no worries, here’s my guide to the rules.

When filing a title, “the” goes at the end and you start with a lowercase letter. But in indexing first lines, put “the” at the front; somehow they think that works better. In corporate bodies, “the” is often left out; it’s part of the name but it has not much clout.

But in place names “the” is important to show. You must trust the rules, for surely they know!

With love to John, Bill and Jenny back home, to all the indexers around the word from INDEX-L, *The Indexer* and—

MISS SWEETIE-POO: Please stop. I’m bored. Please stop. I’m bored. Please stop. I’m bored.

GLEND A BROWNE [hastily]: —to my sister Carol for being here and saying the Ig Nobel is the best award you could ever win. Thank you!



Miss Sweetie-Poo informs Glenda Brownne that the acceptance speech has gone on long enough. Photo: Kees Moeliker.

NUTRITION

Brian Wansink (the self-refilling, bottomless bowl of soup)

BRIAN WANSINK: An ode to a soup bowl.
Oh say can you see my soup bowl refill?
But because it's not empty I keep eating still.
I've eaten fourteen ounces but little do I know

There's a tube in the bottom and I've got six quarts to go.
Some geek in a red apron just told me to stop.
"I'm starving!" I tell him. "The soup's still at the top!"
Now when we eat with our eyes, our eyes do the cheating.
The psychology of food explains my book, *Mindless Eating*.
So if you use a bowl's bottom to tell you you're through.
You'll find, six quarts later, the last laugh's on you.



Nutrition Prize winner Brian Wansink displays part of the complex bottomless-soup bowl apparatus. Photo: Kees Moeliker.



Aviation Prize co-winner Diego A. Golombek holds his Ig Nobel Prize. Photo: Kees Moeliker.

AVIATION

Diego A. Golombek (Viagra aids jetlag recovery in hamsters)

DIEGO A. GOLOMBEK: Thank you. I have a message from the International Hamster Frequent Traveler Association. It says, "Thank you, scientists, for fulfilling all of our needs. We are Syrian hamsters. That's a lot of time zones away. And we have a lot of sex, so we have both of our desires fulfilled." And then I have a message from the Laboratory Rat and Mice Society, that says, "Why not us?" Finally I would like to thank my colleagues and my students for performing wonderful research that made us laugh and then think, and also for going to the drugstore to get the Viagra for all of us. Thank you.



At the Ig informal lectures, two days after the ceremony, winners past and present tried to explain themselves, then posed for this pointless photo opportunity.

Photo: David Kessler.

The Nano-Lectures

transcribed by Jesse Rinmond Alberts, Improbable Research staff

NOTE: To see video of these lectures, and of the entire ceremony, see the Improbable Research web site www.improbable.com.

To celebrate the evening's theme of CHICKEN, the Ig Nobel Board of Governors sanctioned two nano-lectures about aspects of chicken. Each lecturer was confined to a time limit of 30 seconds. The time limit was enforced by Mr. John Barrett, the Ig Nobel referee.

Nano-Lecture #1

Dudley Herschbach, Nobel Laureate in Chemistry, 1986.

This nano-lecture is dedicated to Albert Einstein. He liked to say: "Nobody expected me to lay golden eggs!"

The global population of chickens today is about 25 billion. All are superb biochemists, especially the hens. They are able to solve a problem that stumped Einstein and his tormented generation of scientists: How can you unscramble an egg, or restore Humpty-Dumpty? Usually it's said to be thermodynamically impossible, because of inescapable entropy. But just feed the scrambled egg to a hen, give her about a day, and she'll deliver a nice new egg!



Nano-lecturer Dudley Herschbach attempts to exert influence on V-Chip Monitor William J. Maloney and referee John Barrett. Photo: Alexey Eliseev.



Nano-Lecture #2

Kees Moeliker, Ig Nobel Prize winner in Biology, 2003.

This is not a chicken. This is a duck. It is the Ig duck. This duck won the Ig Nobel prize in 2003 because I saw the first case of homosexual necrophilia in the mallard duck. To the best of my knowledge, this behavior has not been observed in chickens. Thank you.

V-Chip Monitor William J. Maloney keeps a strict watch on nano-lecturer Kees Moeliker and Moeliker's famous dead duck. Photo: David Holzman.

The 24/7 Lectures

transcribed by Rose Fox, Improbable Research staff

As part of the Ig Nobel Prize Ceremony, four of the world's great thinkers were invited to give 24/7 Lectures.

Each 24/7 Lecture was on an assigned topic. The lecturer was asked to explain that topic twice:

FIRST, a complete technical description in TWENTY-FOUR (24) SECONDS,
and THEN a clear summary that anyone can understand, in SEVEN (7) WORDS.

The time and word limits were enforced by the Ig Nobel referee, Mr. John Barrett, and the Ig Nobel V-Chip Monitor, prominent New York attorney William J. Maloney.

Here are the complete transcripts of this year's 24-7 Lectures.

LECTURER: Massimo Marcone, Assistant Professor of Food Science, University of Guelph.
TOPIC: Food Science.

Complete technical description in TWENTY-FOUR (24) SECONDS:

Food science is an interdisciplinary applied science which uses principles of experimental design and statistical analysis in the examination of all aspects of food from harvest of ingredients to their behaviour during formulation, processing, storage and evaluation as consumer food products. It incorporates concepts from a variety of fields including chemistry, microbiology, and process engineering. In a nutshell, food science is concerned with all quality, nutritional, sensory, cultural, and safety aspects of foods.

Clear summary that anyone can understand, in SEVEN (7) WORDS:

Foods that don't kill make you fatter.

LECTURER: Fariba Houman, Interim Director of the Human Subjects Administration, Harvard School of Public Health.
TOPIC: Research Ethics.

Complete technical description in TWENTY-FOUR (24) SECONDS:

The ethical conduct of non-exempt human subjects research is governed by federal rules per 45 CFR part 46. In a phase II trial of avian flu vaccine in a cohort of animal handlers processing broiler chickens— [At this point, the referee called a halt to the lecture.]

Clear summary that anyone can understand, in SEVEN (7) WORDS:

Research on chicken handlers needs IRB approval.



Massimo Marcone. Photo: David Holzman.



Fariba Houman. Photo: Kees Moeliker.



Jill Lepore. Photo: David Holzman.

LECTURER: Jill Lepore, Professor of History, Harvard University.
TOPIC: History.

Complete technical description in TWENTY-FOUR (24) SECONDS:

History is in the doing, traveling to and archiving in the repository or library of the [unintelligible] chicken-scratch of letters, diaries, [unintelligible] and speeches, scrapbooks or unopened mail of strange and wondrous people you've never met, though you probably wish you could have. Find out everything you can about how they understood why hens lay eggs. Think about it, think about it some more, and then make up some cock and bull story.

Clear summary that anyone can understand, in SEVEN (7) WORDS:

History is the study of dead people.

LECTURER: William Lipscomb, Nobel Laureate (1976) in Chemistry.
TOPIC: Chicken.

Complete technical description in TWENTY-FOUR (24) SECONDS:

It is very surprising how many references there are on the internet for chicken. Unbelievable. I could go through them but I don't have much time here. No one has asked why a chicken crosses the road: to cross the road. [At this point, the referee called a halt to the lecture.]

Clear summary that anyone can understand, in SEVEN (7) WORDS:

Chicken lays egg. It's a standing ovation! [After Professor Lipscomb concluded his speech, the audience awarded him a standing ovation of his own.]



William Lipscomb. Photo: Kees Moeliker.

Libretto: “Chicken versus Egg”

A mini-opera in three acts

Music by Wolfgang Amadeus Mozart

Words by Marc Abrahams

Original Cast

Hen: Gail Kilkelly

Egg: Maggie McNeil

Other eggs: Nobel Laureates Roy Glauber, Dudley Herschbach, William Lipscomb, Craig Mello and Robert Laughlin

Pianist: Scott Nicholas

Opera Director: Margot Button

ACT 1

NARRATOR: Tonight’s opera is called “Chicken versus Egg.” It’s about a chicken sitting on an egg, and you can probably guess where it goes from there. The chicken is played by Gail Kilkelly. We will meet her in Act 2. The egg is played by Maggie McNeil. The two singers are, like the characters they play, mother and daughter.

Here’s some background. The hen has been sitting on the egg for quite a while now. The egg is getting awfully bored. Let’s join her now as she complains to her mother.

[MUSIC: “Voi Che Sapete” from “The Marriage of Figaro” by Mozart.]

[The EGG sings this. Her manner is that of a petulant, bored teenager. As the EGG sings, she sometimes looks upward, in the direction of the sitting hen.]

EGG:

Mother! Oh, Mother! Please stop sitting on my head.

Did you he-ar,

Mother de-ar?

Did you hear what I just sa-ai-aid?

You’re overprotective. It’s total envelop-ment.

Don’t keep me tucked away—

Teach me to play

Well with others.

Your love smothers

Your child’s develop-ment.

Then there’s my posture and my growth.

Also my deportment.

A small bustline!

A twi-isted spine!

It looks like I’ll have both.

But your most nasty cut,

Mother, you brute,

Is that your keeping me beneath your butt

Might smooch my suit!



The egg complains. Photo: Kees Moeliker.

Mother dear,
Here is what I fear:
Mother, Mother!
You will smother
My modeling career!

I have... the most perfect suit
One could possess.
It's really cu-u-u-ute.
Yes! Yes! Yes!

Look! The color is a perfect shade of eggshell!
And the shape's a perfect ovoid! It looks swell!
But when you sit on me, my clothes will go to hell.
All this you know... perfectly well!

Mother! Oh, Mother! Please stop sitting on my head.
Oh, what a crying shame!
Don't play this game!
Mental slaughter
Of your daughter!
I'll never be the same!

Mental slaughter
Of your daughter!
I'll never be the same!



The soon-to-be-mother hen clucks to her unhatched daughter. Photo: David Holzman.

ACT 2

NARRATOR: Since our first visit with the chicken and the egg, not a whole lot has happened. The egg has continued to be an egg, and the chicken has continued to sit on it. Here in Act 2, the chicken has grown weary of her egg's incessant whining. Let's join the mother hen now as she tells her daughter some facts of life.

[MUSIC: "Queen of the Night" from "The Magic Flute" by Mozart.]

[The HEN holds an egg in her hand, and sings this song to it. She is fed up with the egg's attitude.]

HEN:

You little egg, you listen to your mother!
Listen to Mother!
Sit still, and cock an ear. Now then, my dear...
I've heard enough!
Enough about your feeling and your passions.
Enough about your shape-revealing fashions.
My ovoid nitwit,
Put a lid on it!

Your foolish rot
Has really made me hot!
Ho-o-o-o-o-o-o-o-t!
Baking, frying, roasting in foil!
Ho-o-o-o-o-o-o-o-t!
You watch it, kid—an egg is easy to boil.

Your simpering seems human,
But you—you're just albumin. [pronounced "al-BYOO-min"]
You act like I'm a doormat.
I will not stand for that.

But I know
That you know
I can't stop you.
Okay! Stand up, and go!
Oh, ho, ho-o-o-o-o-o-o-o-o-o-o-o-o!

Your demands are quite a joke.
Settle down. Have lunch. Relax, and eat your yolk.
Ha! Ha! Ha-a-a-a-a-a-a-a-a!
I'm your mother.
There... I'm glad we spoke.



Just prior to the final act, the Nobel Laureates donned special egg costumes. Photo: Kees Moeliker.

ACT 3

NARRATOR: It's time for the thrilling conclusion to our opera. After nine months—er, um, nine weeks—uh, uh... or however long it takes an egg to hatch—the magic moment is about to arrive. The hen and her favorite egg are realllllllllly excited.

You may notice some other eggs here on the stage, played by the Nobel Laureates and the other scientists. These other eggs, too, are eager to hatch—but they're not going anywhere right now. Their stories will have to be told some other time.

Now let's join the mother hen as her favorite egg breaks out of its shell, and becomes a chick.

[Sung by HEN and EGG. At the beginning, the HEN is giving encouragement and instruction to the EGG, who is tentative and a bit frightened. In the middle, after EGG has hatched, both HEN and EGG grow progressively more excited and happy. The HEN is evermore proud and relieved and happy—but the EGG grows progressively more dismayed once she realizes she has become just like her mother. By the very end of the song, the hen is radiantly joyful, but the egg is in near-panicked despair.]

[The scientists all play the part of OTHER EGGS. They hold whatever we are using as simple egg costumes—perhaps a few pieces of paper taped together, and they say “peck, peck, peck, peck, peck” when the singers are singing the “peck, peck...” part, and at such other times as the mother HEN may direct them to.]

[Music: “Pa-pa-gena! ... Pa-pa-geno!” from “The Magic Flute” by Mozart.]

EGG: Peck! Peck, peck!

HEN: Peck! Peck, peck!

EGG: Peck, peck! Peck, peck!

HEN: Peck, peck! Peck, peck!

EGG: Peck, peck, peck, peck! Peck, peck, peck, peck!

HEN: Peck, peck, peck, peck! Peck, peck, peck, peck!

HEN: Peck, peck, peck! Peck, peck!

EGG: Peck, peck, peck! Peck, peck!

HEN: Peck! Peck! Peck! Peck! Peck!

EGG: Peck! Peck! Peck! Peck! Peck! Yayyyyyy!!!

[The EGG's shell breaks, and she becomes a chicken.]

HEN: That was a tightly-fitting dress!

EGG: Oh, such a tightly-fitting dress!

HEN: I can imagine your distress!

EGG: You can imagine my distress!

BOTH: Oh, what distress! Oh, what distress!

HEN: You felt peckish? You felt squeezed?

EGG: I felt peckish. I felt squeezed!

HEN: Bottle-neckish, almost tweezed?

EGG: Bottle-neckish, almost tweezed!

BOTH:

Well, at first I [you] tried to make do.

Then at last I [you] had a breakthrough.

I [you] got rid of that thing quick.

I'm [You're] a chick!

I'm [You're] a chick!!

I'm [You're] a chick!!!

Yes, I am [you are] quite a stylish chick!

Yes, I am [you are] quite a stylish chick!!



In the opera's thrilling conclusion, the newly hatched daughter goes instantly from sublime joy to bottomless despair as she realizes that she is becoming just like her mother. Photo: David Kessler.

HEN: Now! Now at last! You are a chicken!
 EGG: Now! Now at last! I am a chicken!
 HEN: Now! Now at last! You are a chicken!
 EGG: Now! Now at last! I am a chicken!
 HEN: You're a chicken!
 EGG: I'm a chicken!
 HEN: You're a chicken!
 EGG: I'm a chicken!
 BOTH:

I'm [You're] a chicken!
 I'm [You're] a chicken!

EGG: Do you know what I want to do?
 HEN: Yes, I know what you want to do!
 EGG: To lay an eggggggggggggg!
 HEN: You'll lay an egg and be a mother!
 BOTH:

Lay an egg and be a mother!
 Lay an egg and be a mother!
 lay an egg and be a mother, mother, mother, mother, mother!

To lay an egg!
 To lay an egg!

HEN: Yes, that IS just what I would do!
 EGG: Oh, no! That's just what YOU would do!
 HEN: I'd lay an eggggggggggggg!
 EGG: I've become just like my mother!
 I've become just like my mother!
 I've become just like my mother, mother, mother, mother, mother!

BOTH:
 I'm [You're] just like her [me]!
 I'm [You're] just like her [me]!
 Like my [your] mother!
 Like my [your] mother!
 Like my [your] mother, mother, mother, mother, mother!
 Well, well, well! Well, well, well, well!
 Like my [your] mother!
 Like my [your] mother!
 Like my [your] mother, mother, mother, mother, mother!
 Put me back into my [You have come out of your] shell!
 Put me back into my [You have come out of your] shell!!
 Put me back into my [You have come out of your] shell!!!

EGG: I've become just like my mother!!!!
 HEN: You've become just like your mother!!!!
 BOTH:

Mother, mother, mother, mother!
 Mother, mother, mother, mother!
 Mother, mother, mother, mother!



The hen's glee. Photo: Kees Moeliker

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May We Recommend

Items that merit a trip to the library

compiled by Stephen Drew, Improbable Research staff

Final Fling

“Cadaver Windshield Impact Research,” L.M. Patrick, *Plastic and Reconstructive Surgery*, vol. 37, no. 4, April 1966, pp. 314–23.

Giant Fungus Was Among Us

“Devonian Landscape Heterogeneity Recorded by a Giant Fungus,” C. Kevin Boyce, Carol L. Hotton, Marilyn L. Fogel, George D. Cody, Robert M. Hazen, Andrew H. Knoll, and Francis M. Hueber, *Geology*, vol. 35, no. 5, May 2007, pp. 399–402. *(Thanks to Tom Gill for bringing this to our attention. Gill points out that: “This paper has actually made quite a splash in the geology world; it suggests that the Devonian period—about 400 million years ago—may have had a landscape with forests of magungous, tree-sized fungi. Jefferson Airplane and Lewis Carroll indeed. No reports yet of giant hookah-smoking caterpillars in the Devonian.”)*



C. Kevin Boyce, lead author of “Devonian Landscape Heterogeneity Recorded by a Giant Fungus,” with a piece of same. Photo courtesy of the University of Chicago.

The Descent of Vertebrates

“The Behavioral Reactions of a Snake and a Turtle to Abrupt Decreases in Gravity,” R. Wassersug and A. Izumi-Kurotani, *Zoological Science*, vol. 10, no. 3., June 1, 1993, p. 505. [NOTE: In 2001 Richard Wassersug won the Ig Nobel Biology Prize for an earlier experiment, concerning the palatability of certain varieties of tadpole, unrelated to this one.]

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

Evidence of Continental Drift, in Highway Road Signs

Tim Palucka
Pittsburgh, Pennsylvania

During a recent automobile trip to Washington, D.C., the author noted with alarm that two cities, Washington and Baltimore, appeared to be moving away from each other.

Materials and Methods

The author made his observations while driving on route I-70 from Pittsburgh, Pennsylvania to Washington, D.C.

I used the following equipment:

- 1) a 1996 Saturn 4-door sedan (silver) equipped with an in-dash chronometer; and
- 2) a 35-millimeter camera.



Figure 1.



Time measurements between road signs were taken, and photographs of the road signs were made using 400-speed color film.

A bag of tortilla chips was consumed during the experiment. Later mathematical modeling and analysis showed both the bag and the chips to be unrelated to the main results of this study.

Results

Two observations tell the story.

Figure 2.

An interval of 48 minutes, as recorded by the in-dash chronometer, elapsed between the taking of the photographs that are here labeled Figure 1 and Figure 2.

In the first observation (see Figure 1), it is clear that Washington and Baltimore were 125 and 127 miles distant, respectively. The two cities were—at that time—separated from each other by a distance of 2 miles.

The second observation (see Figure 2) was made just 48 minutes later. At that time, Washington and Baltimore were 67 and 71 miles distant, respectively. The separation between the two cities had increased from 2 miles to 4 miles.

A simple calculation shows that, during that 48 minute period, a drift of 2 miles had occurred between the cities. The drift rate was a whopping 220 feet per minute (2.5 miles per hour).



Figure 3. A researcher (not the author) puzzles over a map (not a map of the Baltimore-Washington region).



Figure 4. A map showing Baltimore and Washington (each circled) as they stood in relation to each other in 1865. This map may no longer be valid.

Interpretation

Ruling out time dilation effects (which we can do because our Saturn automobile never exceeded the 65 miles-per-hour legal speed limit, which is several magnitudes of order below the speed of light), the most likely explanation is the existence of a previously unknown tectonic plate, with a fault line lying somewhere between Washington, D.C., and Baltimore, Maryland.

The discovery of this plate (call it, say, the “Palucka Plate”) and the associated fault line (which I propose to call “Not Palucka’s Fault”) marks a new chapter in the history of geotectonic research.

Discussion

The drift rate greatly exceeds reported drift rates of other tectonic plates, which are generally on the order of 1 inch per year. This has many implications. The most immediate is that the White House, the Capitol, the Smithsonian Institution and other government buildings will become beachfront property in just a matter of days from now. This implication itself has implications, which unfortunately are beyond the scope of the current paper.



Figure 5. A late-twentieth-century USGS topographical map of the northeastern United States, including the Baltimore-Washington region. This map may have to be revised.

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

The Difficulty of Escaping Preconceptions in Writing an Article About the Difficulty of Escaping Preconceptions

Commentary on Hunt and Carlson (2007)

Robert J. Sternberg and Elena L. Grigorenko

https://doi.org/10.1002/9781118130181.ch10

For more information on this article, please visit the article page on the journal's website. For more information on the journal, please visit the journal's website. For more information on the journal, please visit the journal's website.

Preconceptions About Preconceptions

“The Difficulty of Escaping Preconceptions in Writing an Article About the Difficulty of Escaping Preconceptions: Commentary on Hunt and Carlson (2007),” Robert J. Sternberg and Elena L. Grigorenko, *Perspectives on Psychological Science*, vol. 2, no. 2, June 2007, pp. 221–3. The authors are respectively at Tufts University and at Yale University. (Thanks to Martin Gardiner for bringing this to our attention.)

Bias About Bias

“Systematic Review of Publication Bias in Studies on Publication Bias,” Hans-Hermann Dubben and Hans-Peter Beck-Bornholdt, *British Medical Journal*, vol. 331, 2005, pp. 433–4. (Thanks to Kristine Danowski for bringing this to our attention.)

What is already known on this topic: Studies estimated to have publication bias seem more likely to be published at all, earlier, and in journals with higher impact factors; as a consequence effects are often overestimated.

What this study adds: These findings do not indicate publication bias in reports on publication bias.

Systematic review of publication bias in studies on publication bias

Hans-Hermann Dubben, Hans-Peter Beck-Bornholdt

Publication bias is a well known phenomenon in meta-analysis. It is defined as the tendency for studies with statistically significant results to be published or included in meta-analyses, while studies with non-significant results are not published or included in meta-analyses. This bias can lead to overestimation of effect sizes and to incorrect conclusions. The authors of this review conducted a systematic review of studies on publication bias. They found that publication bias is a common problem in meta-analysis and that it can lead to overestimation of effect sizes and to incorrect conclusions. The authors conclude that publication bias is a serious problem in meta-analysis and that it should be taken into account when interpreting the results of meta-analyses.

Chocolate Insight 1

“Food Cravings in a College Population,” H.P. Weingarten and D. Elston, *Appetite*, vol. 17, 1991, pp. 167–75. The authors, who are at McMaster University, explain that:

Ninety-seven per cent of woman and 68 per cent of men reported experiencing food cravings. Chocolate was the most frequently reported food craved, especially among women.

Chocolate Insight 2

“Mood State Effects of Chocolate,” Gordon Parker, Isabella Parker and Heather Brotchie, *Journal of Affective Disorders*, vol. 92, 2006, pp. 149–59. (Thanks to Tatiana Divens for Bringing this to our attention.) The authors, who are variously at the University of New South Wales, Australia and at the Black Dog Institute, in Sydney, report that:

Popular claims confer on chocolate the properties of being a stimulant, relaxant, euphoriant, aphrodisiac, tonic and antidepressant.... We review chocolate’s properties and the principal hypotheses addressing its claimed mood altering propensities.... This review focuses primarily on clarifying the possibility that, for some people, chocolate consumption may act as an antidepressant self-medication strategy and the processes by which this may occur.

Conclusions: Any mood benefits of chocolate consumption are ephemeral.

Mood state effects of chocolate

Gordon Parker^{1,2}, Isabella Parker², Heather Brotchie²

¹ School of Psychiatry, University of New South Wales, Australia
² Black Dog Institute, Sydney, Australia

Received 27 September 2005; revised 12 November 2005; accepted 1 February 2006
Available online 28 March 2006

Abstract
Background: Chocolate consumption has long been associated with improved mood and pleasure. Popular claims confer on chocolate the properties of being a stimulant, relaxant, euphoriant, aphrodisiac, tonic and antidepressant. The aim of this study was to review the mood state effects of chocolate consumption. Methods: We review chocolate’s properties and the principal hypotheses addressing its claimed mood altering propensities. We investigate chocolate’s effects on mood, cognition, and behavior, and consider the possibility that chocolate consumption may act as an antidepressant self-medication strategy. Conclusions: Any mood benefits of chocolate consumption are ephemeral.

Tubbs On Books In a Gym

“Noise Problems Associated with Relocating a Bookstore in a Gymnasium,” Randy L. Tubbs, *Applied Occupational and Environmental Hygiene*, vol. 18, no. 2, February 2003, pp. 75–81. (Thanks to Kristine Danowski for bringing this to our attention.)

Washing Away Sins

“Washing Away Your Sins: Threatened Morality and Physical Cleansing,” Chen-Bo Zhong and Katie Liljenquist, *Science*, vol. 313, September 8, 2006, pp. 1451–2. (Thanks to Hikke Von Doorninck for bringing this to our attention.) The authors, who are respectively at the university of Toronto and at Northwestern University, report that:

Washing Away Your Sins: Threatened Morality and Physical Cleansing

Chen-Bo Zhong¹ and Katie Liljenquist²

Physical cleansing has been a focal element in religious ceremonies for thousands of years. The prevalence of this practice suggests a psychological association between bodily purity and moral purity. In three studies, we explored what we call the “Macbeth effect”—that is, a threat to one’s moral purity induces the need to cleanse oneself. We showed that physical cleansing alleviates the upsetting consequences of unethical behavior and reduces threats to one’s moral self-image. Daily hygiene routines such as washing hands, as simple and benign as they might seem, can deliver a powerful antidote to threatened morality, enabling people to truly wash away their sins.

Recent studies of physical and moral purity are so psychologically intertwined, Lady Macbeth’s desperate obsession with trying to wash away her bloodstained conscience while crying, “Obed, damned spot! Out, I say!” (15) may not have been entirely in vain.

Given that physical cleansing might have been an antidote for moral purification, we set out to investigate its whether a threat to moral purity induces a need for physical cleansing (i.e., the Macbeth effect) and (2) whether physical cleansing in various effect sizes in helping people cope with moral threats. We first determined whether a threat

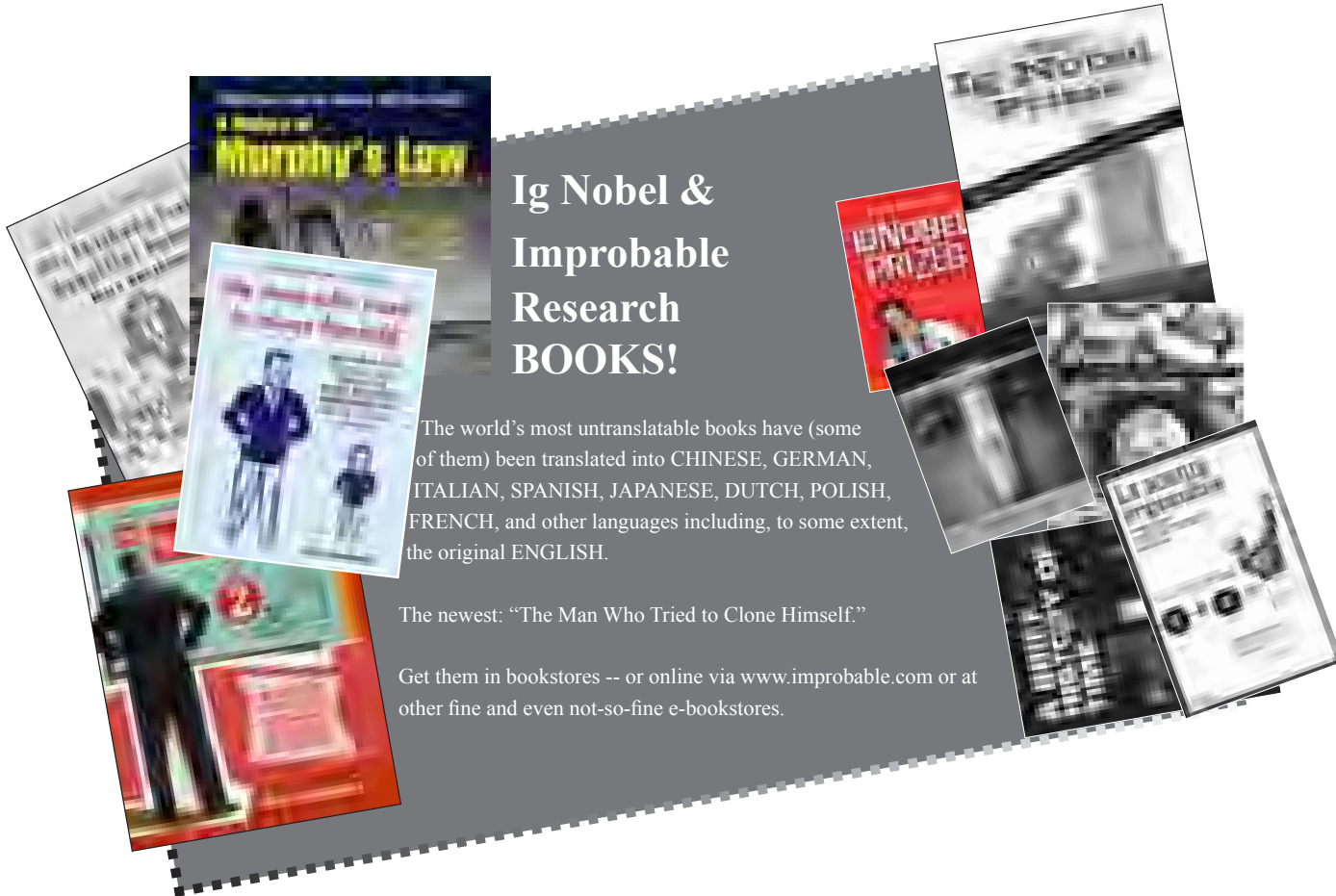
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AIR Teachers' Guide

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.

HMO-NO News

Health care advice to pass on to your patients



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HMO-NO The very final word in health care

Boys Will Be Boys

Research by and for adolescent males of all ages and sexes

compiled by Katherine Lee, Improbable Research staff

Staring at the Chest

“Pectoral Changes During the Sexual Response Cycle: A Thermographic Analysis,” P.R. Abramson and E.H. Pearsall, *Archive of Sexual Behavior*, vol. 12, no. 4, August 1983, pp. 357–68. The authors explain what they did:

Three married couples volunteered to participate. Each couple reported to the thermography laboratory two times. Included within the two sessions (which were a minimum of a day apart) was a masturbation to orgasm sequence and a control behavior sequence. During both sequences, the thermographic image was focused on the pectoral region.

Female Bowel Function: The Real Story

M. Zutshi, T. L. Hull, J. Bast, J. Hamme, *Diseases of the Colon and Rectum*, vol. 50, no. 3, March 2007, pp. 351–8.

* Department of Internal Medicine, Cleveland Clinic Foundation, Cleveland, Ohio
† Department of Radiology, Cleveland Clinic Foundation, Cleveland, Ohio
‡ Department of Obstetrics and Gynecology, Cleveland Clinic Foundation, Cleveland, Ohio

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Female Bowels: The Real Story

“Female Bowel Function: The Real Story,” M. Zutshi, T. L. Hull, J. Bast and J. Hamme, *Diseases of the Colon and Rectum*, vol. 50, no. 3, March 2007, pp. 351–8. (*Thanks to Len Finegold for bringing this to our attention.*)

Conclusion: There is a vast diversity in what is considered normal female bowel habits. One daily bowel movement is not the norm. Normal older females and those who have had children report more flatal incontinence.

Leech Excitation

“Kinematics and Modeling of Leech Crawling: Evidence for an Oscillatory Behavior Produced by Propagating Waves of Excitation,” T.W. Cacciatore, R. Rozenshteyn and W.B. Kristan Jr., *Journal of Neuroscience*, vol. 20, no. 4, February 15, 2000, pp. 1643–55.

Toothpick *in ano*

“Toothpick *in ano*: an Unusual Cause of Syncope.” E.J. Esber, W.R. Davis, K.D. Mullen and A.J. McCullough. *American Journal of Gastroenterology*, vol. 89, no. 6, June 1994, pp. 941–2. The authors are in the Division of Cardiology, Case Western Reserve Medical school, MetroHealth Medical Center, Cleveland, Ohio. (*Thanks to Miriam E. Tucker for bringing this to our attention.*)

Lap Dancer’s Lament

“Lap Dancer’s Lament: An Occupational Hazard Related to Community-Associated Methicillin-Resistant *Staphylococcus aureus*,” J.R. Roberts, *Annals of Emergency Medicine*, January 2007, vol. 49, no. 1, pp. 116–7.

A 23-year-old previously healthy woman presented to the emergency department complaining of “another boil on her backside.” ...As an exotic dancer she frequently performed lap dances where the bare skin of the infected area had repeated contact with a client’s skin. She reported multiple prior similar lesions that resolved with antibiotic ointment or self-puncturing. She relayed that other lap dancers at her club had similar problems, considered a known occupational hazard by the women.



Bends on the Learning Curve

Improbable ideas and explanations collected from classrooms

by Richard Lederer

Here are some biological discoveries described by students in their homework and tests:

- Every concept is still a theory until it can be proven false.
- With the naked eye, you can only observe what you see.
- It's in a state of animated suspension.
- Salk perfected the Salk vaccine, an anecdote for polo.
- Isotherms and isobars are even more important than their names sound.
- Cyanide is so poisonous that one drop of it on a dog's tongue will kill the strongest man.

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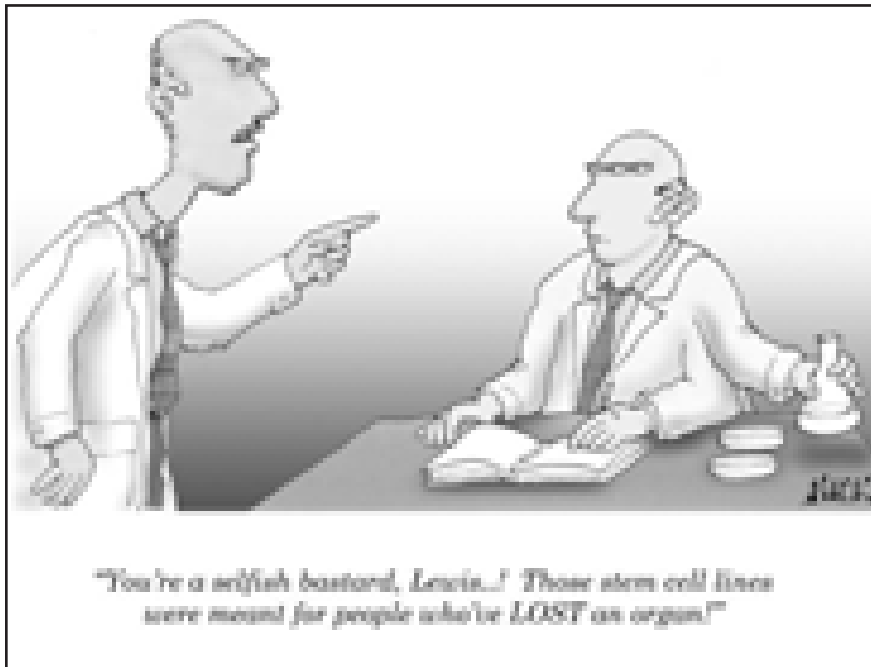
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