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

**Attain your ideals!**

Purchase a nicer, printable PDF of this issue.

Or nicest of all, subscribe to the paper version of the *Annals of Improbable Research* (six issues per year, delivered to your doorstep!).

To purchase pretty PDFs, or to subscribe to splendid paper, go to [http://www.improbable.com/magazine/](http://www.improbable.com/magazine/)
Special Issue!
When You Can Divide by Zero

by Stanley Eigen

Department of Mathematics
Northeastern University, Boston, Massachusetts

We have long had a rule in mathematics about dividing by zero. The rule is: You cannot divide any number by zero. I have just seen evidence that the rule has an exception.

My nine-year-old daughter is learning division in school, so I bought some flash cards to help her.

The set I got is called “Flash Kids.” The manufacturer describes it this way:

A Barnes and Noble Publication
Ages 8 and Up

Each side of a card has a math problem, and each side also has (in smaller print) the answer to the problem that’s on the other side.

One card (reproduced here) is especially interesting. On one side, the problem is: 2 divided by 0.

Turn the card over and you see that the answer is: 0. This was news to me.

So, pending further investigation, here is the corrected rule: Except for the number 2, you cannot divide any number by zero.
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
6 Where The* -- Marc Abrahams
8 An/The/An Index of Confusion * -- Philip O’Leary
10 NA and Missing Library Books* -- Joyce Flynn
11 The The Research Review* -- Alice Shirrell Kaswell

Improbable Research
IFC When You Can Divide by Zero* -- Stanley Eigen
22 Stock Market Behavior Predicted by Rat Neurons* -- Timothy Marzullo, Edward Rantze and Gregory Gage

Improbable Research Reviews*
4 Improbable Research Review* -- Dirk Manley
5 Improbable Medical Review* -- Bertha Vanatian
12 Kulicke, Kulicke, Kulicke, Kulicke...* -- Nan Swift
17 Icky Cutesy Research Review* -- Alice Shirrell Kaswell
20 Soft Is Hard* -- Alice Shirrell Kaswell and Bissel Mango
21 May We Recommend* -- Stephen Drew
28 Boys Will Be Boys* -- Katherine Lee

On the Front Cover
Some occurrences of the word ‘The’ on book covers. These sometimes pose problems for people who prepare indexes or who arrange the order of books on library shelves. The dilemmas are examined in several studies in this issue. Photo: A.S. Kaswell, Improbable Research staff.

On the Back Cover
A photo mélange prepared by the authors of the study “Stock Market Behavior Predicted by Rat Neurons,” which appears on page22 of this issue.

News & Notes
2 AIR Vents (letters from our readers)
9 AIR books
13 Ig Nobel Invitation
14 The European Bureau Is Open* -- Willem O. de Jongste
18 POEM: “The Reviewer” -- Lloyd Fricker
21 Teachers’ Guide
25 HMO-NO News: Cure By Commitment
26 Puzzling Solutions -- Emil Filterbag
30 Bends on the Learning Curve -- Richard Lederer
31 CARTOON: “Two Wrongs” -- Nick Kim
31 Back Issues
IBC Unclassified Ads

Coming Events
(see WWW.IMPROBABLE.COM for details of these and other events)
Alpbach Technology Forum, Austria (and webcast) -- Aug. 25, 2006
Massachusetts Medical Soc. -- Sept. 19, 2006
Ig Nobel Prize Ceremony (and webcast) -- Oct. 5, 2006
Ig Informal Lectures -- Oct. 7, 2006
ACUBE -- Oct. 26, 2006

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

Annals of Improbable Research
The journal of record for inflated research and personalities
Volume 12, Number 4 • July/August 2006 • ISSN1079-5146
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.

Hamburger Surprise
My husband has been a loyal reader of AIR and its antecedents for over 30 years. So imagine my surprise, when I opened this month’s issue and saw that very flattering portrait [“Hamburger and Salmon, and Cancer,” AIR 12:3]! I was always suspicious that this work might end up as “Improbable Research.” I know that Dr. Salmon would have been flattered. My only question is whether AIR appears in the Science Citation Index.

Anne Hamburger
Baltimore, MD

Incessantly in Re “The Nut”
I was charmed by the most recent letter from Lillian Palay Dall, in which she confesses to being smitten with me, while confessing to a past bitter disappointment in love that led her to forswear all foreign entanglements. Good. I have, in fact, been bitterly disappointed in love (by a woman living in Florence), and have thus forsworn future Florentine entanglements. The fact that I am married also presents some obstacle. Nonetheless, I wish to return Ms. Dall’s compliment. I cannot recall the last time that I read a letter about a letter about a letter about a letter about a letter about a picture of a quarrel about a nut (or indeed, about a picture of a quarrel of any sort) with such pleasure, and it gives me great happiness to imagine Ms. Dall busily writing such letters in sunny Florence.

Ben Haller
Foster City, CA

Clouds of Gassy Glory
In the article about M.D. Levitt, M.D. (AIR 12:3), the third author on this important paper on a patient with excessive amounts of gastrointestinal wind is M.R. Aeolus:


This seems appropriate as Aeolos was the custodian of the four winds in Greek mythology.

Ed Charlton
Pain Management Unit
Newcastle upon Tyne, U.K.

Canyons of Children’s Confusion
A serious discussion of the Grand Canyon (“Other Grand Canyons” by Earle E. Spamer, AIR 12:2) must go back to the bible. It is difficult to find direct references to the Grand Canyon.

Thomas D. Allingham-Price
Sheffield, U.K.

Women Who Count
This photo shows my grandmother Rita von Dohnoff and her colleague Birgit Arnim nearing the end of Phase 2 of the famous project to manually count all the numbers from one to 1,000,000,000,000. Perhaps now Professor Dorn (AIR Vents 12:2) will get off his high horse and admit that the project was in existence.

Petra von Helvig
Rabenkirchen-Faulück
Germany

Hamburger Surprise
My husband has been a loyal reader of AIR and its antecedents for over 30 years. So imagine my surprise, when I opened this month’s issue and saw that very flattering portrait [“Hamburger and Salmon, and Cancer,” AIR 12:3]! I was always suspicious that this work might end up as “Improbable Research.” I know that Dr. Salmon would have been flattered. My only question is whether AIR appears in the Science Citation Index.

Anne Hamburger
Baltimore, MD

Incessantly in Re “The Nut”
I was charmed by the most recent letter from Lillian Palay Dall, in which she confesses to being smitten with me, while confessing to a past bitter disappointment in love that led her to forswear all foreign entanglements. Good. I have, in fact, been bitterly disappointed in love (by a woman living in Florence), and have thus forsworn future Florentine entanglements. The fact that I am married also presents some obstacle. Nonetheless, I wish to return Ms. Dall’s compliment. I cannot recall the last time that I read a letter about a letter about a letter about a letter about a letter about a picture of a quarrel about a nut (or indeed, about a picture of a quarrel of any sort) with such pleasure, and it gives me great happiness to imagine Ms. Dall busily writing such letters in sunny Florence.

Ben Haller
Foster City, CA

Clouds of Gassy Glory
In the article about M.D. Levitt, M.D. (AIR 12:3), the third author on this important paper on a patient with excessive amounts of gastrointestinal wind is M.R. Aeolus:


This seems appropriate as Aeolos was the custodian of the four winds in Greek mythology.

Ed Charlton
Pain Management Unit
Newcastle upon Tyne, U.K.

Canyons of Children’s Confusion
A serious discussion of the Grand Canyon (“Other Grand Canyons” by Earle E. Spamer, AIR 12:2) must go back to the bible. It is difficult to find direct references to the Grand Canyon.

Thomas D. Allingham-Price
Sheffield, U.K.

Women Who Count
This photo shows my grandmother Rita von Dohnoff and her colleague Birgit Arnim nearing the end of Phase 2 of the famous project to manually count all the numbers from one to 1,000,000,000,000. Perhaps now Professor Dorn (AIR Vents 12:2) will get off his high horse and admit that the project was in existence.

Petra von Helvig
Rabenkirchen-Faulück
Germany
Canyon in the bible. But the great Jordan rift which goes through to the Red Sea and Africa must have been the original Grand Canyon.

However, every school child in Israel who speaks the original language of the bible, Hebrew, has a very different idea of what a canyon is and what a Grand Canyon must be. The Hebrew word "Canyon" or "Kanyon" comes from the Hebrew root meaning "to buy". A canyon is a place where you buy. Every Israeli child knows that a Grand Canyon (Hacanyon Hagadol) must be a gigantic shopping mall.

There is the true story of the Israeli children who were taken by their grandparents on a tour of the U.S. featuring the Grand Canyon of the Colorado River in Arizona. They were very disappointed. They asked: "Why is there this big fuss about a hole in the ground? What kind of a canyon is this? Where is the Mall, where can we buy things? Where are the shops?" The real Grand Canyon in America is in Minneapolis, the Gigantic Shopping Mall where people come from all over the world for shopping.

Harry Lipkin
Weizmann Institute
Rehovot, Israel

Mel and Horses

One of our students discovered this photo [above] in a box in a closet in the rear of the basement of the warehouse behind the annex to our main library building. I think the man next to the horse that’s third from the center is Mel, the bearded fellow whose photograph seems to always appear on your letters page.

Tami Kearan
Director of Acquisitions
Probert Memorial Library Complex
Cincinnati, OH

Big Wheel in the Post Office

I found Jeff Van Bueren’s “Postal Experiments” (AIR 6: 4) interesting. Not all items HAVE to be wrapped. Unusual shapes, especially when extremely large, are not always required to be wrapped.

A few years ago I was at my local post office (in Bennington, Vermont) when a local woman came into the post office with a wagon wheel. Turns out she repairs them and had shipped them before, without wrapping. The big problem was weighing it.

I have been there when other unusual items that were not wrapped were shipped. If you try to mail something and they refuse or want you to do something you don’t want to do, you can always ask to see their supervisor (which puts the fear of God into many postal employees and thus might get you what you want).

Ray Merrittam, Owner
Merriam Press
World War II military history publisher
Bennington, VT

A Guide to the Stars

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

Annals of
Improbable Research

Editorial Board

Anthropology
Jonathan Marks, U. North Carolina

Archaeology
Angela E. Chase, U. Washington

Aeronautics
Paul McCready, AeroVironment, Monrovia, CA

Astronomy
Robert Knishner, Harvard U.
Jay M. Pauschhoff, Williams Coll.

Biomechanics
Edwin Krebs*, U. Washington

Biophysics
Leonard X. Finegold, Drexel U.

Biology
Lawrence Dill*******, Simon Fraser U.

Biomaterials
Alan S. Linky, Ohio State U.

Biotechnology
A. Stephen Dahms, Alfred E. Mann Foundation

Bureaucracy
Miriam Bloom, SciWrite, Jackson, MS

Cardiology
Thomas Michel******, Harvard Med. School

Chemistry
Dudley Herschbach*, Harvard U.

Computer Science
Dennis Fraley, Texas Instruments, Plano, TX

Economics
Ernst W. Stroumsdorfer, Washington St. U.

Engineering
Dean Kamen, DEKA Research, Manchester, NH

Food Research
Massimo Marcone, U. of Guelph

Forensic Biology & Criminalistics
Mark Brencke, IAR Forensic Res. & Cons., Kobe

Functional Biology & Morphology
Frank Fish, West Chester U.

Genetics
Michael Hengartner, U. of Zürich

Geology
John C. Holden, Osnak, WA

History of Science & Medicine
Tim Healey, Barnsley, England

Immunology
Falk Fish, Organics, Ltd., Yavne, Israel

Infectious Diseases
JamesMichel******, Harvard U.

Intelligence
Marilyn vos Savant**, New York, NY

Law
Ronald A. May, Little Rock, AR

Library & Info Scientists
Regina Reynolds, Library of Congress,
Washington, DC

George Vallas, Budapest, Hungary

Norman D. Stevens, U. of Connecticut

Materials Science
Robert M. Rose, MIT

Mathematics
Lee Segel, Weizmann Inst.

Medical Ethics
Irwin J.O. Kompane, Erasmus MC
University, Rotterdam

Methodology
Rod Levine, National Insts of Health

Microbiology
Roland G. Vela, U. North Texas

Molecular Biology
Walter Gilbert**, Harvard U.

Molecular Pharmacology
Lloyd Frickman, E. coli of Medicine

Neuroengineering
Jerome Letvin, MIT

Neurology
Thomas D. Sabin, Tufs U.

Ornithology
C.W. Moeller*******, Natuurmuseum
Rotterdam

Obstetrics & Gynecology
Pek van Andel*******, Medical Faculty
Groningen, The Netherlands

Orthopedic Surgery
Glenn R. Johnson, Benidji, MN

Paleontology
Sally Shelton, Smithsonian Inst.

Pediatrics
Ronald M. Mack, Bowman Gray School of Med.

Pharmacology
Stanston G. Kimmel, Normal, OK

Philosophy
George Englebretson, Bishop’s U., Quebec

Physics
Len Fisher*******, Bristol U., UK

Jerome Friedman**, MIT

Sheldon Glashow, Boston U.

Karl Kusnierz*******, U. Sydney

Harry Lipkin, Weizmann Inst.

Douglas Osheroff*, Stanford U.

Mel Schwartz*, Columbia U.

Political Science
Richard G. Neiman*******, Rochester, NY

Psychiatry & Neurology
Robert Hoffman, Peninsula Neurology,
Daly City, CA

Psychology
Louis G. Lippman, Western Wash. U.

Neil Martin, Middlesex U., UK

Chris McManus*******, University Coll. London

Neil J. Sankid, U. of Kansas

Pulmonary Medicine
Traian Mihalcea, Clinic of Pulmonary Diseases, Iasi, Romania

Radiology
David Rahin, Highland Park Hosp., IL

Science Policy
Al Teich, American Asan for the
Advancement of Science

Stochastic Processes
(Selected at random from amongst our subscribers)

A. Hambury, Vienna, Austria

Women’s Health
Andrea Dunaif, Northwestern U.

JoAnn Mason, Brigham & Women's Hosp.
Improbable Research Review

Improbable theories, experiments, and conclusions

compiled by Dirk Manley, Improbable Research staff

Vincent, Van, Goh


Bugs on a Roof Again

“Another Case of Water Beetles Landing on a Red Car Roof,” B.J. van Vondel, *Latissimus*, vol. 10, no. 29, 1998. (*Thanks to David F. Austin for bringing this to our attention.*)

Future Directions in Antler Research

“Future Directions in Antler Research,” R.J. Goss,

Spreading Bores

“Some Models for the Propagation of Bores,” S.V. Rajopadhye, *Journal of Differential Equations*, vol. 207, 2005, pp. 179-203. (*Thanks to Tom Roberts for bringing this to our attention.*) The author, who is at Santa Clara University, in California, reports, royally, that:

In this work, we consider alternative models for the propagation of bores.

For Formulas, Flame is Fleeting

“Goodbye, Hazen; Hello, Kozeny-Carman,” W. David Carrier III, *Journal of Geotechnical and Geoenvironmental Engineering*, vol. 129, no. 11, November 2003, pp. 1054-6. (*Thanks to Tom Gill for bringing this to our attention.*) The author explains that:

The century-old Hazen formula for predicting the permeability of sand is based only on the D10 particle size. Whereas, the half-century-old Kozeny-Carman formula is based on the entire particle size distribution, the particle shape, and the void ratio. As a consequence, the Hazen formula is less accurate than the Kozeny-Carman formula. It is recommended that the former be retired and the latter be adopted.

*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

Strong Family Atmosphere

If It’s Not One Way...

...It’s the Other

Cause for Bread Dread

The present paper reports this unusual cause of bowel perforation, which we believe could be prevented by improving the design of this relatively modern device or even by changing the method of sealing bread bags altogether. Interestingly, the date on the offending bread bag clip preceded the presentation of the patient by 2.5 years.

Perspiring Palm Procedure

Absolut® Memory Distortions
“Absolut® Memory Distortions: Alcohol Placebos Influence the Misinformation Effect,” S.L. Assefi and M. Garry, Psychological Science, January 2003, vol. 14, no. 1, pp. 77-80. The authors, who are at Victoria University of Wellington, New Zealand, explain that:

Subjects drank plain tonic water, but half were told it was a vodka and tonic; then all subjects took part in an eyewitness memory experiment. Subjects who were told they drank alcohol were more swayed by misleading postevent information than were those who were told they drank tonic water, and were also more confident about the accuracy of their responses.

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

by Marc Abrahams, Improbable Research staff

‘The’ has its place. That, more or less, is the theme of Glenda Browne’s treatise called “The Definite Article: Acknowledging ‘The’ in Index Entries.”

The ‘The’ article appears in The Indexer, the information-and fun-packed publication for professional indexers everywhere. The Indexer has its own index, which includes an entry for ‘Browne, Glenda.’

Brown characterizes herself as an Australian freelance indexer. Her study is a four-page-long guide for the ‘The’-perplexed. It explains that: “If ‘The’ exists in a name or title, it should exist in the index entry for that name or title. And if it exists in the index entry, it should be taken into account when sorting the entries.”

The problem is widespread, and although there are rules (at least three different -- and differing -- official sets of rules), indexers often go their own ways. Browne gives examples.

In the 2000/2001 Sydney telephone directory, “‘Agency Register The’ and ‘Agency Personnel The’ are sorted under ‘A’, while ‘The Agency Australia’ is sorted under ‘The’. ‘The Sausage Specialist’ is filed under ‘The’ and ‘Sausage’, while ‘The Meat Emporium’ is only filed under ‘Meat Emporium The.’”

Browne explains some of the many reasons behind the inconsistencies.

‘The’ often doesn’t matter. There are many titles that include ‘The’, but then treat it as if it doesn’t exist. The masthead of [the newspaper] The Australian, for example, has a tiny ‘The’ above a large ‘Australian’. Their layout tells us that The is insignificant, but they won’t follow this through and omit it entirely. Corporate names such as ‘The University of Queensland’ are used at times with, and at times without, an initial ‘The’. This makes it very difficult for users to know whether ‘The’ is an integral part of the name....

On the other hand, in many corporate names ‘The’ has been deliberately chosen as the first word of the name, and is used consistently. The musical group ‘The Beatles’ is referred to as such, and never as ‘Beatles’. In these cases, the group considers the initial article significant, and it will be the access point consulted by many users. An extreme example is the group ‘The The’, which would look absurd with the initial ‘The’ omitted or inverted.

There are good reasons for sorting on ‘The’, says Glenda Brown, and good reasons for ignoring it. She suggests listing ‘The’ items twice: under ‘The’ AND under the second word in the entry. Lest that create unmanageably long lists of entries starting with ‘The’, she offers other alternatives.

Internationally, the “The” problem is not The problem -- it is merely A problem. Glenda Browne makes this clear at the very start of her paper, with a quotation from indexing maven Hans H. Wellisch:

Happy is the lot of an indexer of Latin, the Slavic languages, Chinese, Japanese, and some other tongues which do not have articles, whether definite or indefinite, initial or otherwise.

References

Glenda Brown is no one-shot wonder. Her book Web Site Indexing, co-written with Jonathan Jermey, also features advice on the ‘The’ problem. Here is the pertinent entry in the index of that book.

The ‘The’ issue so moves Brown that she recently composed a poem, which we present here with her kind permission:

When filing a title ‘The’ goes at the end
And you start with a lower-case letter.
But an index of first lines puts ‘the’ at the front
Somehow they think that works better.

For corporate bodies ‘The’s’ often left out;
It’s part of the name but it has not much clout.
But in place names the ‘the’ is important to show
You must trust the rules, for surely they know!
An/The/An Index of Confusion

by Philip O’Leary
Boston College

For those working with the Celtic languages, the definite article looms large. The problems it creates are in no way balanced by the fact that the Celtic indefinite article creates no problems at all because it doesn’t exist. I recently finished co-editing the two-volume *Cambridge History of Irish Literature*. After five years of work, I and my colleague Margaret Kelleher saw the end in sight, particularly when Cambridge announced they would provide the index. That index, imposing in its length and detail, duly arrived. With its arrival, the end of the project quickly receded from our field of vision, to be replaced with another six months of work -- almost all of it the result of the Irish definite article (or articles, as will soon become clear).

That definite article in the singular is *An*, and when we looked at the proofs of the index for the first time and saw that the letter “A” went on for several pages we knew at once what had happened -- entry after entry began with *An*. All would need to be rerouted to their proper places under the initial letter of the following noun.

*An* vs. *An*, and Worse

Nor was the job to be that simple. First of all, there were also a few entries misplaced under the English definite article “An” and under the Irish interrogative particle *An* (as well as titles in the interrogative misplaced under the initial letter of the word following this particle in various titles).

Moreover, Irish has a vocative particle *A*, which created further confusion for the indexers, who understandably enough saw it as an indefinite article and accordingly ignored it as they alphabetized those entries. Needless to say, the plural form of the definite article, *Na*, created its own chaos down the road in the “N” section of the index. And, to add to the confusion, since this was a history of Irish literature from its beginnings, it, and its indexers, had to deal with earlier forms of the language (and of the definite article, which can appear as – and this list is by no means complete – *in, int, ind, a* in the singular and *ind, in, int, inna, na* in the plural).

All bad enough, but it gets worse.

Like all the Celtic languages, Irish is characterized by mutations of the initial letters of words caused by the words or particles that precede them. Thus the feminine definite article changes *b* to *bh*, *c* to *ch*, *d* to *dh*, *f* to *fh*, *g* to *gh*, *m* to *mh*, *p* to
Ig Nobel and Improbable Research BOOKS!

The world’s most untranslatable books have (some of them) been translated into CHINESE, GERMAN, ITALIAN, SPANISH, JAPANESE, DUTCH, POLISH, and other languages including, to some extent, the original ENGLISH.

The newest: Nick Spark’s “A History of Murphy’s Law.”

Get them in bookstores -- or online via www.improbable.com or at other fine and even not-so-fine e-bookstores.

ph, and t to th. What then does one do with an entry on “the cow” – an bhá? Should it be under b? bh? b(h)? The masculine article is less problematic, although it does prefix t to words beginning with a vowel, leaving the problem of where to put “the father” – an t-athair.

Incidentally, that hyphen is a useful device here as other Irish verbal particles can also create troublesome mutations. Ár nathair can mean either “our father” or “our snake,” perhaps explaining St. Patrick’s eagerness to get those confusing serpents off the island before they created major theological problems for his mission. The hyphen solves this problem, but can leave one wondering whether an t-athair should be filed under “T.” The proper listing would be “athair, an t-”.

Feminine/Masculine Awkwardness
The feminine singular article has no effect on a following vowel, but does, in certain cases, prefix t to nouns beginning with an s. (Unfortunately, the Irish word for “ant,” seangán, while beginning with an appropriate s, is masculine, denying us the convenient mnemonic an t-seangán.) The plural article in both genders prefixes h to nouns beginning with a vowel, creating a new problem since Irish really doesn’t use h except to indicate this mutation (and for a handful of often exotic loan words like héileacaptar (helicopter), hipirglicéime (hyperglycaemia), holograf (holograph), or homaisiogót (homozygote), none often heard in pubs. Thus, for all practical purposes, the h listing in a careless Irish index could include nothing but misplaced plural nouns.

Still, for all these potential pitfalls, Irish indexers can take comfort that they don’t have the problem faced by their counterparts in Wales: the Welsh definite articles y and yr could create a situation whereby readers could leaf through and index of the first 24 letters of the alphabet before meeting up with a noun at all.
Na and the Missing Library Books

by Joyce Flynn
Harvard University

One June, about 25 years ago, I was doing a one-month work-study gig describing records and tapes in Celtic languages for Harvard's audio-visual collection and language lab, which was tucked away in the basement of Boylston Hall. I came across goofy mistakes in some main entries in Scottish Gaelic and in Modern Irish. Titles and artists that were plural nouns had been catalogued with Na (the equivalent of English "The") as the first word of the titles or of the performing group’s name. Because no one but staff was allowed in the stacks (the area where the records and tapes themselves were kept), this meant no library user would be able to find them by cruising the shelves.

In Search of Whodunnit

I tried to track how the same mistake could have happened so frequently. A staff member referred me to a one-page set of instructions about cataloguing Celtic materials. The guideline had been drawn up in Widener Library -- the university’s main library -- for cataloguing books.

The Widener instructions correctly gave the singular definite article An as a word to be disregarded in cataloguing (i.e., go to the next word in the title for purposes of alphabetizing). But the instructions didn’t mention the plural article Na.

It turned out that a staff cutback had eliminated the Widener cataloguer familiar with the languages. The library had assigned cataloguing in Celtic to someone else. As a result, book titles beginning with Na, for something like Na Fir (The Men), had been catalogued under Na("The") as the first word in the title. Many items catalogued under “N” belonged elsewhere.

I pursued this problem with the-then head cataloguer -- a Mr. Fitzgerald -- giving him a copy of the cataloguing guidelines hand-corrected by me. I prepared those annotations in consultation with my fellow Celtic scholar Philip O’Leary, to make sure whoever was doing the catalogue copy could easily do it accurately.

The issue goes beyond just Harvard’s Widener Library. Because Widener is often the first North American library to acquire and catalogue an obscure foreign language title, Widener’s cataloguing data frequently becomes the standard for libraries that acquire the book later.

Na: The 21st Century Sequel

Looking back after so many years made me curious about the state of Celtic cataloguing today. I’d always assumed that having the accurate info at hand would solve the problem, at least for cataloguing titles acquired from that summer forward.

I did some preliminary checking of the library’s computer-based catalog system. It is now the only way the public can access titles in the Harvard College Library collections. For books stored in the Harvard Depository Library in Southboro, a town about twenty miles distant, the situation is even starker. For many of those books there is no way for a researcher to seek them on physical, three-dimensional shelves. If the title is miscatalogued so that it doesn’t appear in a computer search, and that title is stored outside the main library buildings in Cambridge, it’s GONE.

I did a “title beginning with” search for Na followed by a space, and got lots of entries, in a variety of languages. Before I was through the Na B---- list, I’d found two Widener titles that were incorrectly catalogued -- and which had (discouragingly) been miscatalogued long after I corrected the guidelines that Mr. Fitzgerald and the Catalogue Department had been using in the late 1970s:

NA BANNAN GRÁIDH (published 1987)

NA BLIANTA CORRACHA (published 2003?)

Both titles can be accessed with a search that gives Na as the title’s first word. But they cannot be accessed if you give Bannan or Blianta as the first word. Dipping deeper, into
the Na C---- title listings, I found

Na CRUACHA: SCÉALTAAGUS SEANCHAS
(printed 1985)

NA CRuiteacháin (published 1941)
‘Na Cruacha can be retrieved using Cruacha or Na as the first word of the title, but ‘Na Cruiteacháin only comes up if you type in “Na” as the start of the title. The book is, effectively, half-lost.

The Detection Begins Anew
Dismayed at finding that many of the library’s books cannot be found, I contacted all Celtic teaching faculty. Associate Professor Barbara Hillers, who specializes in Modern Irish and Scottish Gaelic, in turn alerted Widener research librarian Elizabeth McKeigue. McKeigue is now looking into just how bad the problem is and what can be done about it. This time around, the spreading Na will (I expect) be put in its place. The list of titles alphabetized under “N” should soon display a dramatic reduction in numbers. But I intend to check again after another quarter-century!

The Looming Larger Question
The whole affair has made me wonder how many books written in obscure languages are mis-filed and languishing in shadowy library storage buildings. For how many languages is this happening, in how many libraries around the world?

Imagine a death row of titles written in non-global languages, waiting to be checked out for the first time -- but invisible to scholars seeking them. Imagine a future in which they no longer wait for Professor Godot to borrow them because they have been discarded by libraries -- because their circulation statistics show that they were never requested by readers.

EDITOR’S NOTE: What of the world’s other libraries? We would enjoy hearing reports from librarians who can help us make a good estimate of the scale of the problem.

The Research Review
by Alice Shirell Kaswell, Improbable Research staff

Children Vote Against The
“What Is a Word? Experimental Study of Children’s Ideas on Grammar,” Ioanna Papandropoulou and Hermine Sinclair, Human Development, vol. 17, no. 4, 1974, pp. 241-53. (Thanks to Jean Berko Gleason for bringing this to our attention.) The authors, at the University of Geneva, explain that up through about age 7, many children will insist that “the” is not a word.

Healy and The The Errors (1)

In four experiments, subjects read 100-word passages and circled instances of the letter t. Subjects missed a disproportionate number of ts in the word the.

Healy and The The Errors (2)

The and T

In a letter-detection task, participants make more errors detecting the letter t in the word the than in other words.... Three experiments were conducted...
Kulicke, Kulicke, Kulicke, Kulicke...

by Nan Swift, Improbable Research Staff

Is Werner-Michael Kulicke the king of self-referencing? A paper he published in the year 2000 suggests that maybe, just maybe, he is.

When scientists write a paper, they usually include a list of other papers that played a part in their thinking. This list is supposed to give credit where credit is due. Some scientists are overly shy about referencing other papers that they themselves have written. Other scientists are not so very shy.

Stolk Stalks Kulicke

Investigator Machiel J. Stolk of the University of Utrecht enjoys reading other scientists' reference lists. He writes:

I have discovered a scholarly paper in which one of the authors refers 23 times to his own work. He lists a total of 29 references -- so 80 percent are his own! I wonder are there other scholars who reach this percentage? Is this a record?

Of course, this doesn’t beat the Eric Schulman papers (which contains 100 percent self-references) you have published in Annals of Improbable Research. But Dr. Schulman constructed his studies entirely for the purpose of referring to his own work. I think -- I hope -- that Prof. Dr.-Ing. Kulicke had different intentions.

The Kulicke 23-self-references paper is


The author in question is Prof. Dr.-Ing. Werner-Michael Kulicke of the Institut für Technische und Makromolekulare Chemie at the University of Hamburg, Germany.

The Challenge

If you know of a published academic study that surpasses Werner-Michael Kulicke’s record of including 23 self-references, please send us a copy.
The European Bureau Is Open

by Willem O. de Jongste, Improbable Research European Bureau staff

I am at the doorsteps of the Natural History Museum Rotterdam. People of all ages and looks make their way into the building that has a modern yet classic look. A stuffed orang-utan welcomes me; I see what looks like a dried whale penis; and a friendly woman called Olga sticks a sticker on my shirt: "Improbable Research -- European Bureau -- opening 19 May 2006." This gathering marks the opening ceremony of the first and only Improbable Research branch outside the U.S., and the inauguration of the Bureau’s Chief, 2003 Ig Nobel prize winner Kees Moeliker.

The Bureau’s task is to become Europe’s central collecting point for improbable research and Ig Nobel nominations, and to be the base for a series of future public events on the European continent. Next year, 2007, will see the first, perhaps annual, "Ig Nobel Tour of Europe." (The Europe tour will occur in May/June. This is in addition to the annual Ig Nobel Tour of the U.K., which happens every March as part of that nation’s National Science Week).

On Historic Ground (Glass)

It is by no means a coincidence that the Bureau is located here. This is historical Ig ground: just outside the building, the first-ever scientifically recorded (and, eventually, Ig-winning) case of homosexual necrophilia in the mallard duck took place. One of the birds -- the victim -- had died in a high-speed collision with a glass wall. Deep down in the museum’s storage facilities, Moeliker -- who is the museum’s curator of birds -- keeps the stuffed victim as one of his most valuable treasures.

Earlier that day, I watched Moeliker guide Improbable Research editor Marc Abrahams on a little pilgrimage, to the all-glass north wing of the museum, where the now world-famous mallard duck came to its end. Moeliker pointed towards the glass and the green lawn below it, and Abrahams nodded.

The Unfolding of Events

The program starts with (two) words of welcome from Professor Jelle Reumer, director of the museum. Drawn from the tradition of the Ig Nobel Prize Ceremony, the two words are “Welcome, welcome.”

Marc Abrahams tells the mostly Dutch audience (some German and Belgian and American nationals are present, too) about the Ig Nobel prizes. Then comes a series of five-minute lectures. Two prominent attendees are appointed as time keepers to make sure the speakers keep it short: science writer Herbert Blankesteijn (on his racing bicycle, and dressed appropriately for that) and Peter van Lindonk, director and founder of the annual PINC (People, Ideas, Nature, Creativity) conference (also dressed accordingly). Simultaneous translations of the oral presentations are done by Olga Vierbergen (into Finnish), Wim van Egmond (Dutch), Bahram Sadeghi (Farsi) and Dennis Mendez Contreras (Latin American Spanish). The audience looks confused, perhaps happily, and probably does not know what to expect.

The first five-minute lecture is by Erwin Kompanje of the Erasmus MC University Medical Center Rotterdam. He tells about his rediscovery in the 18th-century medical literature of a remarkable penis-shortening device that he will reveal in the October issue of the *Archives of Sexual Behaviour*, and that will undoubtedly help those equipped or confronted with an exceptionally long male member.

Wolter Seuntjens (Free University Amsterdam) presents his latest insights into the hidden (erotic) aspects of yawning, and Hein Meijers, communication director of NWO -- The Netherlands Organization for Scientific Research -- puts improbable research into a European perspective.

Top: A portion of the door to the room where the drawer is kept in a desk. Photo: Kees Moeliker.
Then a smart 10-year-old girl gets the microphone. She is Kees Moeliker’s daughter Sezen, and she treats us to a talk titled “How and why my father won an Ig Nobel prize.” To prove the homosexual nature of the necrophilic act that her father witnessed, she nicely points a laser-pointer to a slide of a corkscrew-like appendage of the dead duck’s lower body, saying “Dit is de penis van de dode eend” [translation: This is the dead duck’s penis]. While waving a stuffed mallard duck above her head, she makes sure that everybody understands that this is the duck.

Time has come for the special appearances. Robin Abrahams, Improbable Research’s psychology editor, explains how a dream she had about psychologist Steven Pinker eventually led to the birth of the Luxuriant Flowing Hair Club for Scientists (LFHCFs). From the audience rises a famous trio -- Falk Schuch, Andreas Linsner and Kai Jung, chemists at Zentaris GmbH and Men-of-the-Year 2004/2005 of the Club. They journeyed from Frankfurt, Germany, to be part of tonight’s historic event. They wave their hair, and answer a dozen or more questions including, “Was your long hair of any help in your scientific careers?” All three scientists say they have no recollection of being short-haired.
The Moment: History in a Drawer

At the end of the program comes the ceremony itself. The hushed, excited audience watches the three LFHCfS Men-of-the-Year carry a drawer (from Moeliker’s desk) into the room. The soon-to-be Bureau Chief empties the contents of his drawer into a dustbin. Marc Abrahams sticks a small version of the Bureau’s logo onto the drawer, declares the Bureau opened, and shakes Moeliker’s hand.

The Bureau Chief explains that this very drawer is the European Bureau, and that the museum is not going to erect a new wing to house it. He concludes the evening with a talk titled ”Is there life after a dead duck?” There is, apparently.

NOTE: for further details and photos, see

Visitor Information

The Improbable Research European Bureau is located at the Natuurhistorisch Museum Rotterdam, Westzeedijk 345 (Museumpark), 3015 AA Rotterdam, The Netherlands, and can be reached at +31 10 2660463 or at improbable@nmr.nl. Visitors are welcome -- but please phone or email in advance to make an appointment.

The day after the Luxuriant Flowing Hair Club for Scientists (LFHCfS) Men-of-the-Year took part in the ceremony, they were summoned to Amsterdam where they met this royal personage. Photo: Alice Shirell Kaswell.
Icky Cutesy Research Review

Research reports that are icky and/or cutesy

Compiled by Alice Shirrell Kaswell Improbable Research staff

Cutesy

Cutesy
“A Novel Method for the Removal of Ear Cerumen,” David A. Keegan and Susan L. Bannister, *Canadian Medical Association Journal*, vol. 173, no. 12, December 6, 2005, pp. 1496-7. (Thanks to numerous investigators for bringing this to our attention.) The authors explain that:

A 45-year-old male complained of a profound reduction in his left ear acuity while staying at an island cottage in rural Ontario.... The patient had been swimming multiple times a day for 6 days.... The nature of his problem was revealed as bilaterally impacted cement-like ear cerumen. The Super Soaker Max-D 5000 was filled with body-temperature water and then mildly pressurized using the blue hand-pump.... Midway through the second load’s stream, wax particles began to run out of the ear. Just after starting the third load, a large plug of wax burst forth from the patient’s ear.

Icky

A unique opportunity became available to investigate the mold species isolated from a formaldehyde embalmed and subsequently tanned excised elephant trunk.

Icky: Fecal Fettuccine
“‘Fecal Fettuccine’: A Silent Epidemic?” Ashok Cherian Jacob, Sindhu S. Jacob and Sony Jacob, *American Journal of Medicine*, vol. 119, no. 3, March 2006, pp. 284-5. (Thanks to Norbert Hirschorn for bringing this to our attention.)

A 48-year-old white female presented with nausea, vomiting, and watery diarrhea of 1-day duration.... Overnight, her symptoms improved and the hypokalemia resolved. She reported having a loose bowel movement and passing a piece of “rubbery fettuccine.” Stool examination revealed segments of a worm, subsequently identified as proglottides of the fish tapeworm, *Diphyllobothrium latum*. On questioning, the patient recalled eating sashimi at a sushi bar 4 months earlier.

Icky
The Reviewer

by Lloyd Fricker
The Bronx, New York

Once upon a late night dreary,
As I worked with eyes all bleary,
Reading many pages of proposed experiments galore,
While I pondered all the detail --
Suddenly there came express mail
From a government official with a
dozen pages more.
“Tis some supplement,” I muttered,
“to be thrown upon the floor.”
“Only this and nothing more.”

As I thought, as my mind wandered,
“Why a supplement?” I pondered.
“What could be so important that they had not thought of it before?”
They had filled the margins plenty;
Pages totaled five and twenty.
Countless words filled up these pages,
and now they were sending more,
Hoping that it all would help to give
the grant a better score.
It once did, but nevermore.

Quite distinctly I remember
Study section late September,
Spending countless days and nights in meeting rooms behind closed doors.
Reading, writing, and debating,
Did the grant deserve a rating?
We were endlessly discussing minute flaws and giving scores.
Several grants I found appealing, but I trashed so many more.
Anonymous forevermore.

“This one’s great,” a reader spoketh.
I replied, “surely you joketh.
There is no preliminary data showing work before.”
“But the supplement” he pleaded,
“Shows the data that is needed.

Edgar Allan Poe, who did not compose this
poem. This daguerreotype was made by W.S.
Hartshorn in 1848.
Didn’t you have the time to give the supplement a once o’er?”
“No,” I answered, “I just read the application and no more.
Only this, and nothing more.”

For the pay we are receiving
Extra work I’m not conceiving.
Some grant applications are exciting but most are a bore.
Other work I should be doing,
Rather than just grant reviewing.
Therefore I refuse to read another twenty pages more.
I’d consider reading if it were but just a brief encore --
Just one page and nothing more.

Supplements should be like icing --
Short and sweet, and quite enticing.
Keep in mind the Golden Rule that more is less and less is more.
Summarize your plan concisely.
Chose with care your words precisely.
Be aware that reading a grant application is a chore.
Applications won’t get funded if they make the reader snore.
That’s what matters, nothing more.

*Edgar Allan Poe’s house in Philadelphia.*
*This poem was not written there, nor is the author Edgar Allan Poe.*
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

Men, Women, Drool, Animals

“Behavioral and Hormonal Responses of Men to Brief Interactions with Women,” J.R. Roney, S.V. Mahler, and D. Maestripieri, *Evolution and Human Behavior*, vol. 24, no. 6, November 2003, pp. 365-75. The authors, who are at the University of Chicago, explain that:

This study tested for behavioral and hormonal reactions of young men to brief social encounters with potential mating partners. Male college students were randomly assigned to engage in a short conversation with either a young man or a young woman. Participants provided saliva samples before and after the conversation, completed a battery of psychological measures after the interaction, and had their behavior rated by their conversation partners. Results were generally consistent with the hypothesis that human males may exhibit a behavioral and endocrine courtship response that is similar to that observed in males of many nonhuman vertebrate species.

Tales of the Unexpected, Chapter 892

“A Mother Chimpanzee Knows Her Son is Sick,” S. Itakura, *Perceptual and Motor Skills*, vol. 96, no. 3, part 2, June 2003, pp. 1361-2. The author, who is at Kyoto University, Sakyo, Japan, explains that:

A mother chimpanzee showed special care (high frequency grooming, holding, and carrying) of her child when he was sick, from which one may infer she seemed to know her son was sick.

On the Side of God


By using concordance texts from the Bible books of the Hebrew Canon (Old Testament, OT) and from the New Testament (NT), all the verses containing any reference to the left and the right (OT=151, NT=49 verses) have been identified and classified into 10 groups: (1) references to space, (2) symmetric sayings, (3) the right hand is the favorite hand, (4) right eye preference, (5) God’s right hand, (6) the right side is more prestigious, (7) the right side in liturgy, (8) left hand preference, (9) fatal left-hand shots, and (10) on the left side.

Complexity Under Scrutinization

May We Recommend

*Items that merit a trip to the library*

*compiled by Stephen Drew, Improbable Research staff*

**Transient Functions of Bologna, Theoretically**


**A Body Extraordinary**


**Historical Halitosis**


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

**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 *AIR*-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.*
Stock Market Behavior Predicted by Rat Neurons

by Timothy Marzullo, Neuroscience Program, University of Michigan, Ann Arbor
Edward Rantze, Red Antze, Inc., Cumming, Georgia
Gregory Gage, Biomedical Engineering, University of Michigan, Ann Arbor

We here report for the first time, to the best of our knowledge, rat motor cortex neurons predicting the behavior of the American stock market. We implanted the motor cortex of the brains of rats with silicon electrodes. Using the correlation technique, we monitored the activity of neurons in our rats while simultaneously tracking the activity of stocks in the U.S. stock market.

Background: Hedge Funds
Hedge funds burgeoned in the early 1990s as a popular alternative to the conventional, and more regulated, mutual funds. Hedge funds have often used alternative methods, such as various human social factors, to predict future performance of the stock market. However, we here propose an alternative alternative method.

Methods: Correlation Analysis
For nine days, neural activity in the form of firing rates (which are the number of electrical discharges per second) from recorded neurons (n=94) of three rats were averaged each day as
the rats learned to use a brain machine interface \(^1\) to obtain food pellets.

Mean firing rate data per day were stored using custom software (MATLAB, Mathworks Inc., Natick, MA), along with the closing stock prices for the same day for all corporations listed on NASDAQ, the New York Stock Exchange, and the American Stock Exchange \((n=4195)\). Correlation coefficients were obtained using the `corrcoef` function of MATLAB, and only stocks that had significant coefficients \((p<0.05, t\text{-}test)\) were labeled “responding” and further analyzed. See Figure 1 for a depiction of the behavioral apparatus.

**Methods: Stock Market Prediction**

Generalization (prediction) is important for any valid model. Thus, we decided to test our correlations by predicting future stock price. We analyzed a data set containing firing rates from an additional 20 consecutive trading days using a contrarian prediction model.\(^2\) Firing rates obtained on day \(d\) \((f_d)\) were used to predict the future closing price on day \(d + 1\) using the following rules:

\[
\begin{align*}
  f_d > f_{d-1} & \rightarrow a_{\text{short}} \\
  f_d < f_{d-1} & \rightarrow a_{\text{buy}} \\
  f_d \approx f_{d-1} & \rightarrow a_{\text{hold}}
\end{align*}
\]

where \(f_{d-1}\) is the firing rate from day \(d - 1\) and \(a\) is the action taken, \(a = \{\text{buy; short; hold}\}\). Stated simply, if the rats’ neurons increased firing rates, we would simulate a “short” of the stock; if the firing rates decreased, we would “buy” the stock. If no change occurred \((\pm 1 \text{ impulse/s})\), we did not trade that day (hold). To determine the success of our predictions, the actual value of the stock was observed on day \(d + 1\), and we calculated our profits and losses. Brokerage fees were not included in this analysis.

**Results**

We found that 74 stocks were responsive to the firing rates of our rats. Figure 2 shows an example of one stock (COKE, Coca-Cola Bottling Company Consolidated) that was positively correlated with the rat neurons. Table 1 groups the responsive stocks by sector. Though interesting clusters emerge in the financial and technology industries, the theoretical implications are beyond the scope of this paper.

In our prediction experiments, we found a similar number of stocks that responded to a lag of one day \((n=68)\). Figure 3 shows the output of the stock trading simulation for one exemplar example stock (ASFI, Asta Funding, Inc.). Figure 3A indicates the results of the predictions, while Figure 3B shows our return on investment using the directives provided by the contrarian predictive model.

**Discussion**

For our analysis, we adopted the standard practice in neurophysiology where researchers will record a population of neurons, say 500, and find 50 that respond to a certain stimulus. The researchers will then decide to focus on the cells that showed responses and subject these to further statistical analysis. Thus, based on the work of our colleagues, we believe our methods are sound.

We found that stocks correlate with the firing rates of motor cortex neurons in rats. We also generalized our model to predict future stock price, and we made $435 from an initial $1000 investment in 20 days by using neuronal firing rates to predict whether to buy, short, or hold shares in Asta Funding, Inc.

---

\( f_d \) is the firing rate from day \( d \) and \( f_{d-1} \) is the firing rate from day \( d - 1 \).
Conclusion
Nobel Prize-winning economist Paul Samuelson said in a 1967 declaration to the U.S. Senate that buying a mutual fund is worse than throwing darts at a dartboard. As a consequence, index and hedge funds are now popular. We say that if you are not using a rat motor cortex model of stock price, you might as well be using a mutual fund.

Appendectal Discussion
We are on the verge of a paradigm shift we call the Gage / Rantze / Marzullo (GRM, or the Generalized Revenue Model) Motor Cortex Rattus norvegicus Theory of Societal Urges. The neurons of our rats are in some mysterious way tied to humans’ purchase patterns which ultimately manifest as fluctuations in the American Stock Market.

The Gaia hypothesis, proposed by James Lovelock in the 1960s, states the Earth entire is a living organism. The data presented here are consistent with this theory. We are all tied in a great circle of life, where our hopes, dreams, aspirations, triumphs, despairs, boredoms, and loves are inextricably linked to the creatures of the Earth. Research in 1934 proved that the solar cycles of 1929 were correlated to the closing stock prices of the London and New York stock exchanges of the same year. Though we do not have access to rat motor cortex firing rates from 1929, our future experiments will do a triple correlation between rat motor cortex firing rates, the American and London Stock Markets, and the 2006 solar radiation flux.

We focused on rats in this study, but we would not be surprised if the stock market was correlated to the behavior of American White House squirrels, Jamaican fruit bats, Tasmanian devils, and New England codfish. As a final note, we wonder what would happen to the stock market should species become extinct. Given Earth’s current global biodiversity crash and mass extinction crisis, future human economic success may be neither assumed nor assured.

Notes
Results from the study were previously presented at the 2005 annual Society for Neuroscience meeting in Washington, D.C.

Conflict of Interest Statement: The authors of this study do not personally own any stocks in Asta Funding or Coca-Cola, unless one includes index funds that represent the whole stock market.

References


6. Curiously, 1929 was also the year that Hans Berger published the first recordings of human brain activity in his research attempting to understand the physiology of a youthful telepathic experience with his sister.

HMO-NO News
Health care advice to pass on to your patients

Cure by Commitment

We at HMO-NO are committed to cure. Our commitment is second to none. It’s so strong that we dare to offer something no other health care organization offers: the new HMO-NO Commitment Care™ program. Sign up for Commitment Care™, and we guarantee to treat you with 100% commitment -- 24 hours a day, seven days a week, for at least two weeks.* In the unlikely event that you require additional and/or further services, traditional non-commitment programs are available.**

* Note: May incur stochastic surcharge.

** Note: On an as-available basis. Additional fees apply. May require a three-month prior notification and/or a six-month membership re-consideration period.

Table 1: Market Sectors and the mean Pearson’s correlation coefficients of responding stocks.
Puzzling Solutions

by Emil Filterbag, Improbable Research staff

Here are several solutions -- chemical solutions. Each is puzzling in its own way. The photographs, like the solutions they document are from a variety of U.S. government sources. Some of those sources are, in their own ways, also puzzling.
Boys Will Be Boys

Research by and for adolescent males of all ages and sexes

compiled by Katherine Lee, Improbable Research staff

Bat Guano in the Diet


Photos Can Be Stimulating

“Image Content Influences Men’s Semen Quality,” Sarah J. Kilgallon and Leigh W. Simmons, *Biology Letters*, vol. 1, no. 3, September 29, 2005, pp. 253-5. The authors, who are at the University of Western Australia, explain that:

> There is increasing evidence from non-human animals that males adjust their ejaculate expenditure according to the risk of sperm competition. In this study we show that, after controlling for lifestyle factors known to influence semen quality, human males viewing images depicting sperm competition had a higher percentage of motile sperm in their ejaculates. Many lifestyle variables were confirmed to influence semen quality, including the recent suggestion that storage of mobile phones close to the testes can decrease semen quality.

Cucumber Surprise


> In this paper we report 4 cases of foreign bodies in the urinary bladder. They include a cucumber, glass tube, chewing gum, and filliform catheter.

Sex / Humor

“Sex Differences in Brain Activation Elicited by Humor,” Eiman Azim, Dean Mobbs, Booil Jo, Vinod Menon and Allan L. Reiss, *Proceedings of the National Academy of Sciences*, vol. 102, no. 45, November 8, 2005, pp. 16496-501. *(Thanks to Diane Campbell for bringing this to our attention.)*

Paired Reasoning: Condoms


> The applicability of the Theories of Reasoned Action and Planned Behaviour to the cooperative behaviour of condom use were examined. Seventy-one male and 78 female students, all sexually active unmarried heterosexuals aged 17 to 21 years, gave information about their intentions for the next sexual encounter, as well as their attitude, subjective norm, expectancy-value attitude and subjective norm (including normative beliefs for their sexual
partner), and their past behaviour with respect to condom use. After their next sexual encounter, they completed a questionnaire on their actual condom use. Results indicated that when behavioural conditions including the availability of a condom and an agreement with the partner to use it were satisfied, intention interacted with past behaviour to predict actual behaviour.

**Tips for Collectors:**

**Ostrich Seed**

“Method for Collecting Semen From the Ostrich (Struthio camelus) and Some of Its Quantitative and Qualitative Characteristics,” I. Rozenboim, et al., *British Poultry Science*, vol. 44, no. 4, September 2003, pp. 607-11. (Thanks to Ig Nobel Prize winner Charles Paxton for bringing this to our attention.)

**Non-Aromaticity of Arsoles**


**Exotic Dancing: Theoretical Implications**


This study investigates the multiple uses of body technologies by female exotic dancers and the relationship to dancers’ negotiations of identity. Using ethnographic methods, primarily in-depth interviews, this article probes the ways that dancers alter their bodies to earn money while also attempting to re-create different meanings through their bodies. In fact, the women use body technologies for multiple purposes but make choices about their bodies in a context that rewards them for only sexualized one-dimensional meanings. Body technologies both hinder and help the attempts these women make to manage subsequent identity complications and are engaged on different levels. This article highlights the ways that body technologies reflect the dancers’ struggles concerning body and identity.

**Confusion in a Bear**

Bends on the Learning Curve

Improbable ideas and explanations collected from classrooms

by Richard Lederer

Medical transcriptions show us some unexpected styles of medical reasoning. Here are some examples:

- The patient resides in a nursing home which toppled over resulting in a broken hip.
- I’ve authorized two more trips to the chiropractor to help finish him off.
- The patient was brought in by two police officers in handcuffs.
- The patient is passing urine adequately on the floor.
- I have been following him because of his paranoia.
- He was given a prescription for Keflex if the ear suddenly comes back.
- He has no bleeding from the ears or noses.

Please send your best specimens, together with sources whenever possible, to Richard Lederer, 10034 Mesa Madera Drive, San Diego, CA 92131 USA
For table of contents of each issue, please see our web site WWW.IMPROBABLE.COM

COMPLETE SETS:  Phone or email us for details.
(NOTE: Each complete set includes original copies of MOST of the issues, and photocopies of every other issue.)

ISSUES MARKED "SOLD OUT": are available, if at all, ONLY as part of a complete set.

AIR 1:1—Premier Issue. SOLD OUT
AIR 1:2—Special Teachers' Issue. SOLD OUT
AIR 1:3—Special Food Issue. SOLD OUT
AIR 1:4—Special Palaeontology Issue. SOLD OUT
AIR 1:5—Special Pediatrics Issue. SOLD OUT
AIR 1:6—Special Animal Behavior Issue. SOLD OUT
AIR 2:1—Special Ig Nobel Prize Issue. SOLD OUT
AIR 2:2—Annual Swimsuit Issue. SOLD OUT
AIR 2:3—Special Symmetry Cover Issue.
AIR 2:4—Special Typo Issue. SOLD OUT
AIR 2:5—Special Genetics Issue. SOLD OUT
AIR 2:6—Special Martian Meteorite Issue.
AIR 3:1—Special Ig Nobel Prize Issue. SOLD OUT
AIR 3:2—Annual Swimsuit Issue.
AIR 3:3—Special Managed Health Care Issue.
AIR 3:4—Special Parapsychology Issue.
AIR 3:5—Special How-To Issue.
AIR 3:6—Special Paranormal Issue.
AIR 4:1—Special Ig Nobel Prize Issue. SOLD OUT
AIR 4:2—Annual Swimsuit Issue. SOLD OUT
AIR 4:3—Special Cough & Apology Issue. SOLD OUT
AIR 4:4—Special Animal Behavior Issue. SOLD OUT
AIR 4:5—Special Social Science Issue.
AIR 4:6—Special Math & Money Issue.
AIR 5:1—Special Ig Nobel Issue.
AIR 5:2—Annual Swimsuit Issue. SOLD OUT
AIR 5:3—Special Movie Issue.
AIR 5:4—Special Coffee & Tea Issue.
AIR 5:5—Special Branded Men Issue.
AIR 5:6—Special Education Issue. SOLD OUT
AIR 6:1—Special Ig Nobel Issue.
AIR 6:2—Special Crabs & UFOs Issue.
AIR 6:3—Special Crime & Punishment Issue. SOLD OUT
AIR 6:4—Special Postage & Handling Issue. SOLD OUT
AIR 6:5—Special Bombshell the Bombardier Beetle Issue. SOLD OUT
AIR 6:6—Special Excentric Issue. SOLD OUT
AIR 7:1—Special Ig Nobel / Sweetie-Poo Issue. SOLD OUT
AIR 7:2—Special YWWS Psychology Issue.
AIR 7:3—Special Physics Issue.
AIR 7:4—Special Behavior Issue.
AIR 7:5—Special Animal & Vegetable Issue.
AIR 7:6—Special Ig Nobel / Wedding Issue.
AIR 8:1—Special Pizza, Sex & TV (and Cheese) Issue.
AIR 8:2—Special Nano-Friendship Issue.
AIR 8:3—Special Winter Sausage Issue.
AIR 8:4—Special Smelly Issue.
AIR 8:5—Special Art & Science Issue.
AIR 8:6—Special Ig Nobel Issue.
AIR 9:1—Special Ig Nobel Issue.
AIR 9:3—Special Everything Issue.
AIR 9:4—Special Chicken & Fish Issue.
AIR 9:5—Special Murphy's Law Issue.
AIR 9:6—Special Ig Nobel Issue.
AIR 10:1—Special Beauty Issue.
AIR 10:2—Special Way To Go Issue.
AIR 10:3—Special Loss of Innocence Issue.
AIR 10:4—Special Astronomy Issue.
AIR 10:5—Special Cats Issue.
AIR 10:6—Special Ig Nobel Issue.
AIR 11:1—Special Ig Nobel Issue.
AIR 11:3—Special Everything Issue.
AIR 11:4—Special Everything Issue.
AIR 11:5—Special Murphy's Law Issue.
AIR 11:6—Special Ig Nobel Issue.
AIR 12:1—Special Fame & Fortune Issue.
AIR 12:2—Special Painting Issue.
AIR 12:3—Special Fish & Chips Issue.
AIR 12:4—Special Smiths & Cookies Issue.
AIR 12:5—Special Harry Potter & the Exploding Tots Issue.
AIR 12:6—Special Ig Nobel Issue.
AIR 13:1—Special Famous & Fortune Issue.
AIR 13:2—Special Painting Issue.
AIR 13:3—Special Fish & Chips Issue.

FIRST COPY-----USA $9, Can/Mex $11, Overseas $16
ADD'L COPIES (purchased at same time)-----$7 each

Send payment to: Annals of Improbable Research, PO Box 380853, Cambridge, MA 02238 USA
(+1) 617-491-4437  FAX: (+1) 617-661-0927  <air@improbable.com>

Teachers: You have our permission—and encouragement—to photocopy AIR articles and hand them out in your classroom.

Use this form, or do it online at www.improbable.com

Research that makes you LAUGH, then makes you THINK.

Please:
___ start or ___ renew a subscription FOR ME (__1 year (6 issues) __2 yrs __3 yrs)
___ start or ___ renew a GIFT SUBSCRIPTION (__1 year (6 issues) __2 yrs __3 yrs)

My name, address, and all that:                                           I am giving a GIFT SUBSCRIPTION to:

Name:_________________________________________  Name:_______________________________
Addr: _________________________________________  Addr: _____________________________
Addr: _________________________________________  Addr: _____________________________
City:____________________ State:_______ ZIP:_______  City:____________________ State:_______ ZIP:_______
Country:_________________________  Country:___________________________
Phone:__________________ FAX:__________________  Phone:__________________ FAX:__________________
E-mail:_________________________  E-mail:___________________________

___ Send renewal notice to my beneficiary.  ___ Send renewal notice to me.

As a subscriber to the Annals of Improbable Research, you will receive an official Improbable Research Investigator Card.

Total payment enclosed:______________
Payment method:
___ Check (drawn on US bank) or int’l money order
___ Mastercard  ___ Visa  ___ Discover
CARD #:________________________________________________  Sec code:_______  EXP. DATE________

RATES (in US dollars)

<table>
<thead>
<tr>
<th></th>
<th>1 year</th>
<th>2 yrs</th>
<th>3 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>$33</td>
<td>$60</td>
<td>$89</td>
</tr>
<tr>
<td>Canada/Mex</td>
<td>$39</td>
<td>$65</td>
<td>$95</td>
</tr>
<tr>
<td>Overseas</td>
<td>$49</td>
<td>$90</td>
<td>$135</td>
</tr>
</tbody>
</table>

Send payment to:

AIR
P.O. Box 380853, Cambridge, MA 02238 USA
617-491-4437  FAX: 617-661-0927  air@improbable.com
Unclassified Ads

The Annals of Improbable Research disclaims any and all responsibility for the veracity, existence, safety, or sense of any or all contents or consequences of these advertisements. Proceed at your own risk.

1960 telephone directory, Oslo. BOX 3.
Atoms, almost all kinds. BOX 4.
Atoms, all sizes and weights. BOX 5.
Atoms, variety of colors. BOX 6.
Atoms, both sweet and sour. BOX 7.
Atoms, all natural. BOX 8.
Atoms, artificial. BOX 9.
Atoms, low-calorie. BOX 10.
Atoms, with no added cholesterol. BOX 14.

Atoms and cholesterol -- mix-your-own kit. BOX 17.
1961 telephone directory, Bombay. BOX 21.
Lost kitten. Answers to name “Boson.” If you find her please get in touch immediately. BOX 22.
Carton of dirt. BOX 23.
Homemade zygotes. Just like Mom’s. BOX 48.

There’s more on our web site!

www.improbable.com

• dailyblog
• monthly e-newsletter (mini-AIR)
• “Improbable Research” newspaper column

Appearing every Tuesday in The Guardian (London) and online
What is this picture? (see page 1)