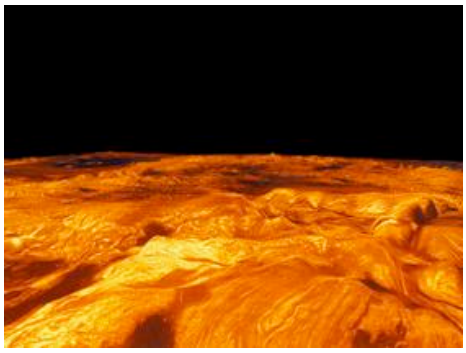

Noesis

The Journal of the Mega Society

Issue #177 June 2005

Contents

About the Mega Society

The Mega Society was founded by Dr. Ronald K. Hoeflin in 1982. The 606 Society (6 in 10^6), founded by Christopher Harding, was incorporated into the new society and those with IQ scores on the Langdon Adult Intelligence Test (LAIT) of 173 or more were also invited to join. (The LAIT qualifying score was subsequently raised to 175; official scoring of the LAIT terminated at the end of 1993, after the test was compromised). A number of different tests were accepted by 606 and during the first few years of Mega's existence. Later, the LAIT and Dr. Hoeflin's Mega Test became the sole official entrance tests, by vote of the membership. Later, Dr. Hoeflin's Titan Test was added. (The Mega was also compromised, so scores after 1994 are currently not accepted; the Mega and Titan cutoff is now 43—but either the LAIT cutoff or the cutoff on Dr. Hoeflin's tests will need to be changed, as they are not equivalent.)

Mega publishes this irregularly-timed journal. The society also has a (low-traffic) members-only e-mail list. Mega members, please contact the Editor to be added to the list.

For more background on Mega, please refer to Darryl Miyaguchi's "A Short (and Bloody) History of the High-IQ Societies,"

http://www.eskimo.com/~miyaguch/history.html

and the official Mega Society page,

http://www.megasociety.org/

Noesis, the journal of the Mega Society, #177, June 2005.

Noesis is the journal of the Mega Society, an organization whose members are selected by means of high-range intelligence tests. Jeff Ward, 13155 Wimberly Square #284, San Diego, CA 92128, is Administrator of the Mega Society. Inquiries regarding membership should be directed to him at the address above or:

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Dues for members of the Mega Society and subscriptions to *Noesis* for non-members are currently two U.S. dollars per issue (but we are considering elimination of dues and the paper version of *Noesis*). One free issue for each issue containing your work as long as dues are charged. Your expiration issue number appears on your mailing label. Remittance and correspondence regarding dues and subscriptions should be sent to the Aministrator, not to the Editor.

Opinions expressed in these pages are those of individuals, not of *Noesis* or the Mega Society.

Editorial

Kevin Langdon

Members of the Mega Society are being sent individual authentication numbers along with this issue, to be used in casting ballots in the society election on the proposed Constitutional amendment printed in Noesis #176. Those that receive Noesis by e-mail are being e-mailed authentication numbers and those who receive Noesis by snail mail are being sent authentication numbers along with their printed issues.

Use of authentication numbers makes e-mail voting feasible. The numbers are generated by the Editor and only a list of valid numbers is transmitted to the Administrator, for use in authentication of ballots and duplicate-ballot control.

Please read the text of the proposed amendment in Noesis #176 and Chris Cole's argument in favor of it in this issue, then send your "yes" or "no" vote, with your authentication number, to Jeff Ward, Administrator, 13155 Wimberly Square #284, San Diego, CA 92128; ward-jeff@sbcglobal.net . The deadline for receipt of ballots by the Administrator—and for the next issue of Noesis--is July 31, 2005.

When I printed Part I of "About the Author," from To Unscrew the Inscrutable [the title has been changed to The Encyclopedia of Categories; this is a much more intriguing and informative title—screw the inscrutable ;-)], by Mega Society founder Ronald K. Hoeflin, I didn't realize that the whole article had already been printed in Noesis #162. Instead of reprinting the remaining two-thirds of this long and interesting article, it would make sense to simply put #162 online, with some minor additions that Ron has made to the introduction. Assistance in this project is solicited.

No argument in opposition to the proposal to make Noesis an online-only publication has been received, but we may be leaving our founder behind in taking this step. Ron has indicated that he will drop out of Mega and found another 99.9999th-percentile society if we go to online-only publication. Although I wish that Ron would join us in the 21st century, I don't see an alternative to passage of the proposed amendment; no one has volunteered to publish a print edition of Noesis. (A print version of Noesis could be made available at http://www.lulu.com/ for about $5 per copy.)

Due to the delay in publication of this issue we are right on the deadline (June 16) to enter the U.S./Canadian qualifying round of the World Puzzle Championship (see page 22). Those for whom we have an e-mail address will receive this issue just in time to enter if they wish to do so. I apologize for reaching print subscribers too late.

Cover: 3-D Perspective of Ovda Regio, Venus, from the Magellan spacecraft (NASA) http://www2.jpl.nasa.gov/magellan/image11.html
Back Cover: An image generated with "Eclipse," a routine in Hallucinations™, by Kevin Langdon

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First Report on Online Testing

Dean Inada

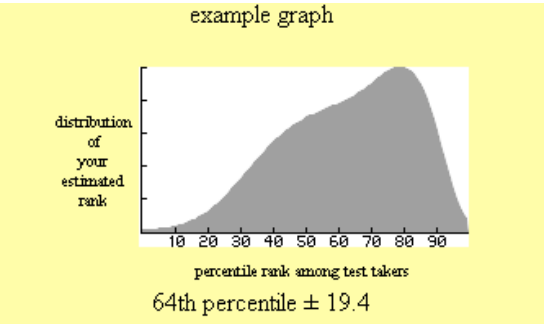
Basic Operation

I have implemented a preliminary online testing site at http://www.mental-testing.com/. Users log in with email and password. Unrecognized email addresses are redirected to a registration page, which, after retype confirmation of email address, emails a randomly generated password which can be used to log in initially, and which can be changed later.

Once logged in, a user can start answering questions.

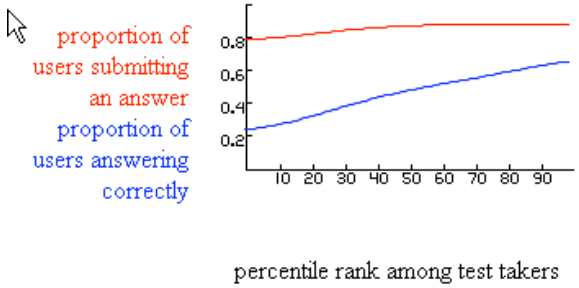
Users start with a flat distribution for their estimated rank within the population of test takers. Since we're using rank within the test-taking population as our abscissa, the sum of all the user distributions will just be a flat distribution representing the entire test taking population. Before answering any questions, we have nothing to distinguish any of the users, so their initial priors will all be the same. The only way identical priors can sum to a flat distribution is if each of the initial priors is flat.

For each question, we record the probability of answering that question correctly as a function of the user's rank within the population of test takers so that when a user answers a question we get a new Bayesian estimate for the user's rank. This is displayed to the user as a graph that looks like this.



The question to be asked next is randomly chosen, with a weight proportional to the square of the amount of information about the user's distribution that we can expect to get if the user answers that question. The ideal question would be one that is always answered correctly by someone in the top half of the user's distribution, and always answered incorrectly by someone in the bottom half of the user's distribution. The expected information gain from answering a question is proportional to the integral of the slope of the question graph times the area of the user graph to the left times the area of the user graph to the right.

Before a user answers a question, the user is informed of the proportion of users who have attempted the question and correctly answered it, both as a function of rank within the population of test takers. This is displayed as a graph that looks like this:



The user may opt to skip a question. The question will be automatically returned to later when the user asks for a new question.

After a question is answered, a new estimate of the user's likely rank within the test taking population is displayed

Anti-Cheating Measures

We encrypt the question identifier in the URL so that users cannot view questions other than those we choose for them.

To make it difficult for users to log in with multiple user IDs and guessing different answers to the same question until they get it, each question has multiple variants. For the questions that can be answered with a formula, we generate different parameters for the formula. For the word questions, the words are randomly selected from a pool.

We noticed that one person who had a perfect score had logged in from the same IP address as 36 other high scoring users with similar email addresses, most of which appeared to be bogus, who had all registered within a short period of time. Noticing this was one of the reasons we decided it was time to implement our postponed plan to use the registration email address to send the user information necessary to log in to take the test.(until then we had only used it to send new passwords to those who had forgotten them). While it is still possible for someone to obtain 37 different email addresses or even 37 different IP addresses, we hope that most people would not bother, and that most who do will still leave detectable patterns. (Identical passwords could also suggest a common user, but we can't detect similar passwords since we only store a hash of the password.) Unfortunately, I accidentally deleted the log file which recorded the times and IP addresses of all registrations and logins, so it would not be easy to go back and review the patterns used by this user.

The likelihood that a skipped question will be returned to is proportional to the expected information gain from the question. This has the effect that it is difficult for users to get to hard questions unless they have answered easy questions correctly. This mitigates the problem of users randomly answering questions and contaminating the distribution for harder questions.

Technical Details

User sessions are maintained by storing user information in all the URLs they click on. The CGI code on the site is written in Perl. The graphics are generated with an ImageMagick command. The parameters used for the questions, as well as the user's answers, are stored in a MySQL database. At first, I used a different table for each user, but the user base grew, along with our disk usage and my understanding of MySQL, so I changed userid to an index in a single table.

At first we cached the .gif images of the user graphs, but this took too much space, so we decided to regenerate them from the histograms each time they were viewed. The histograms eventually also took too much space, even after we changed them from ASCII to packed 16 bit integers, so we are now recomputing them from the set of questions answered correctly and incorrectly.

Statistics

As of March 2005 we are storing 29188990 bytes of data for 33445 users' answers to 20 questions.

Future Directions

Timestamps on questions and answers might also help to spot patterns of use, and could tell us more about how persistent users are being, but we're currently only time stamping logins and registrations.

I'd rather let the user retype the password to confirm, and email a link to click on to activate it. I'd also like to check the addresses against RFC-822, and make sure the host can be looked up in the DNS MX records before sending the mail.

I do not address the question of estimating a person's rank within the general population, but Ron Hoeflin has done work on estimating the probability of taking a test as a function of rank within the general population.

Ideas for new questions are welcome; they should be parameterizeable, and not easily looked up on the Internet, preferably with a sharp threshold where users below a certain intelligence have a low probability of finding the answer, and users above the threshold have a high probability of finding the answer.

Option Theory: What I Knew and When I Knew It – Part I

Edward O. Thorp

Member Ron Lee has obtained the author's permission for us to reprint several of his columns from *Wilmott* magazine under the title "A Mathematician on Wall Street." This is the first of those columns.

One of the themes of this column will be how and to what extent markets are inefficient, and how you might profit from this.

Let's begin by going back in time to the early days of quantitative finance. Paul Cootner's book, *The Random Character of Stock Market Prices*, M.I.T. Press, 1964, presented much of the work that had been done on the random walk theory of stock prices and on the problem of warrant pricing. The warrant valuation problem was essentially the problem of valuing options and, more generally, derivatives. Progress was substantial but the Black-Scholes breakthrough would not appear until 1973.

Meanwhile, in 1965 Eugene Fama proposed that markets were well described as "efficient," with all-knowing rational participants who acted quickly on their information, causing securities prices to properly and rapidly adjust to correctly reflect current knowledge.

I arrived on this scene with a unique perspective. In 1959-60, I had discovered that the casino game of blackjack could be beaten, and I devised and demonstrated a mathematical system to do so, based on keeping track of which cards had been played. Announced in December of 1960 and in January of 1961 (*Proc. N.A.S.*) and published in detail in my *Beat The Dealer* (1962; revised 1966), the system showed that the blackjack "market" was "inefficient."

In a similar investigation of other gambling games, I discovered how to beat roulette by physical prediction (1955-61) and, with Claude Shannon (of Information Theory fame) built the first wearable computer (1961), whose function was to successfully predict roulette outcomes. The predictions of the computer gave us the huge positive expectation of 44%. Shannon and I then used the computer successfully in Las Vegas to win small sums. The casino gambling "market" had yet another "inefficiency." For more, see Thorp (1969, 1998) and *http://www.media.mit.edu/wearables/lizzy/timeline#1966a*.

I investigated several other gambling games with some additional successes, and by 1964 I began to consider the greatest gambling game of all time, the stock market. Whereas I thought of card counting in blackjack as a million dollar idea, my stock market explorations would lead to a hundred million dollar idea. Here's a brief history of what happened.

1964

I spent an intensive summer introducing myself to the markets, investments and finance.

1964-1965

I discovered, and in some cases rediscovered, curious minor technical patterns in stock prices.

1965

At the start of the summer I resumed intensive study of the market and discovered warrants. I understood at once that there was a qualitative link between the price behavior of a warrant and its underlying stock and that it could be more or less quantified and that it could likely be an exploitable market inefficiency. (See Chapter 2, *Beat the Market*).

1965-1966

I met economist Sheen Kassouf in the fall of 1965 when we both arrived as founding faculty members at the new Irvine campus of the University of California. Kassouf was already hedging warrants and we collaborated, publishing much of our work in *Beat the Market*. We understood static hedging, dynamic hedging, and delta hedging, in particular market neutral delta hedging. We documented a historical market inefficiency: warrants with two years or less to expiration tended to be very overpriced.

We used a static hedge to simplify historical simulations for the reader. We used dynamic hedging in our own portfolios, making adjustments in moderate sized steps both to limit risk and to limit the cost of doing so.

In practice my hedge ratio, or "delta," was determined both by the macrostructure of the payoff (wide range of protection against large price changes in either direction) and the microstructure (market neutrality against small changes). It became increasingly clear to me as I thought and invested during 1966-1968 that the clearest proof of an exploitable market inefficiency is to construct a low (ideally zero) risk (hedged) package that has little covariance with the market, yet produces a substantial "risk adjusted excess return."

1967

Beat the Market appeared. Kassouf and I ended our collaboration with the completion of *Beat the Market* in late 1966, and went our separate business ways. I had become familiar with Cootner's 1964 book and various warrant valuation models based on integration. I had earlier concluded that using the log normal distribution for stock price changes and computing the expected terminal value of a warrant, led to a reasonable candidate for a warrant formula. I learned from reading Cootner that several people had already attempted this, in various ways. The version I liked, which I give in Thorp (1969), was, as I learned only in 1975 from Larry Fisher, first derived by Boness. However I do not see this in the Boness paper that is in Cootner, nor elsewhere in my copy of Cootner (the original 1964 hardcover), but did note Sprenkle's related attempt (Cootner page 466).

"My" formula had a growth rate M for the stock and, in the case where the warrant or option short sale proceeds are credited to the account at once, a discount rate d for the present value.

Note: $M = m + v^2/2$, where m is the $\log normal$ drift parameter and v is the volatility. $E(S(t)) = S(0)\exp(Mt)$ is the expected value of the stock at time t if $S(0)$ is the initial price.

1967-1968

I puzzled over the two parameters M and d and speculate that in a risk neutral world I can set them both equal to r, the riskless rate corresponding to the time until expiration (which, as it happens, gives the future Black-Scholes formula). I also note that a continually adjusted "delta neutral" hedged portfolio is riskless and so should have its value discounted at the rate r. This also suggests the simple idea of just setting M and d both equal to r. I mention a couple of these 1967 arguments long after the fact in Thorp (1975).

Occam's razor and these plausibility arguments suggested to me that if there was a simple formula, this (the future Black-Scholes formula) is it.

I didn't see how to prove the formula but I decided to go ahead and use it to invest, because there was in 1967-68 an abundance of vastly overpriced (in the sense of Beat the Market) OTC options. I used the formula to sell short the most extremely overpriced. I had limited capital and margin requirements were unfavorable so I shorted the options (typically at two to three times fair value) "naked," i.e., without hedging with the underlying stock. As it happened, small company stocks were up 84% in 1967 and 36% in 1968 (Ibbotson), so naked shorts of options were a disaster. Amazingly, I ended up breaking even overall, on about $100,000 worth of about 20 different options sold short at various times from late '67 through '68. The formula has proven itself in action.

I estimated volatility from the values of $\log(H / L)$ where H and L are the monthly highs and lows, using the last twelve months which were easily and quickly obtained from my library of S&P monthly stock guides. A previously published math paper (Anderson, 1951?) gives properties of this volatility estimator, including expected value and standard deviation.

My recollection as I write now is that $E\log(H / L)$, the expected value of [?], was $SQRT(8 / PI) * SIGMA$ where $SIGMA$ is the volatility parameter in the assumed underlying lognormal distribution. The use of the volatility estimator $\log(H / L)$ prefigures a 1977? paper on this by Parkinson and a 1980 paper by Garman. Garman combines this and other volatility estimators into a grand overall estimator.

Comment: My naked calls sold short were probably the world's first actual investment use of the future BS formula.

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Nature Versus Nurture

Chris Cole

In the March 2005 issue of *National Geographic*, there is a stunning picture of a happy baby nestled on the coils of a curled up python. The text surrounding the picture explains that researchers have determined that monkeys raised in captivity have no innate fear of snakes, but that when they are shown movies of wild monkeys recoiling from snakes, then they become frightened by snakes too. So this seems to support the "nurture" side of the "nature versus nurture" debate. But the article goes on to reveal that when the researchers altered the movies to show the wild monkeys recoiling from flowers, the captive monkeys did not become frightened by flowers. So this seems to support the "nature" side of the "nature versus nurture" debate.

It's not mentioned in the article, but this result with monkeys is similar to earlier results with pigeons. Are these results surprising?

I don't think so. I don't see how the idea of a snake could be represented in the DNA of a monkey. I don't see how the idea of an animal could be represented in the DNA. I don't even see how the idea of an external object could be represented in the DNA, although here I might be willing to concede that the DNA might encode instructions for a building a brain that has a predisposition to conceive of external objects. So how can it be that you can teach a monkey to fear snakes but not flowers?

It seems to me there must be some kind of intermediary mechanism for tagging things as useful to fear. There is a lot of talk about organs like the amygdala, but I'm not going to be that precise. I'm just pointing out that there must be some mechanism for deciding that some things are worth worrying about, and others are not. And whatever this mechanism is, in monkeys it tags snakes as worrisome and flowers as not a problem.

There is a lot of folklore about the brain that needs to be unlearned. For example, I was taught as a child that cats and dogs are colorblind. That turns out to be false. They have rods and cones just like we do. Apparently, the researchers who concluded they are colorblind performed some kind of experiment to see if they would react to color differences, and made the incorrect assumption that if the color difference made a difference to the animal (such as in getting food), then the animal would make that distinction if it could. But it must be more complicated than that. A brain is a hard thing to get to work. Just because the sensory apparatus exists, even in the presence of

selective pressures to use it in certain ways, it may not be possible because the intermediate mechanisms may need to work some other way.

This is a cautionary tale about implicit assumptions in science, and how they can mess you up. Brain science is a particularly tricky area for implicit assumptions.

Musings on Relativity

Michael C. Price

2005 is the centenary of Einstein's publication of Special relativity, part of his annus mirabilis that also included fundamental work on the atomic basis of Brownian motion and the existence of photons. This got me thinking, a couple of months ago, about General relativity, gravity and curvature. Special relativity is quite straightforward to understand, but General relativity is a real tough nut to crack.

I taught myself Special relativity when I was 19 from a textbook, Special Relativity, by A.P. French. The way Special relativity is presented in the media is quite shocking. For instance we are told that relativity means that "everything is relative to the observer", and is the jumping off point as a mystical theory with all sorts of mushy, philosophical implications. In fact Special relativity is quite the reverse—it's about the things that don't depend in the viewpoint of the observer, which is exactly what you would expect from any classical physical theory. A better description of relativity (both Special and General) would be a "theory of invariance."

The first myth to overturn is that Einstein invented relativity. He didn't. Galileo invented the notion, three centuries earlier. It was Galileo who first enunciated the principle of invariance or relativity when he observed that someone confined to the cabin onboard a ship cannot tell, without looking out of a port hole, how fast the ship is traveling. And Newtonian mechanics has this property that Newton's laws are still valid to an observer in a state of constant motion. Or, put another way; no Newtonian experiment can determine the velocity of your laboratory; therefore Newtonian mechanics, including gravity, conforms to the principle of Galilean relativity. Newtonian physics is invariant under a Galilean velocity boost.

Two centuries later, after the mid 1800s, James Clark Maxwell codified our knowledge of electricity, magnetism and optics into what we now call Maxwell's equations (although their present mathematical compactness is due to Oliver Heaviside and others). The problem with Maxwell's equations was that they predicted a definite, precise speed for light (and other forms of electromagnetic radiation). This seemed to conflict with Galilean relativity—how can light travel at the same speed in different laboratories moving themselves at different speeds? Maxwell's equations were not invariant under a shift in velocity; they violated Galilean relativity! The conventional route out of this was to propose the existence of an ether for the light to travel through—although this didn't really solve the problem completely.

Maxwell's equations, it was imagined by the ether proponents, would only be valid when at rest with respect to the ether, and would need some modification in the more general situation when we are moving through the ether. Since we are in orbit around the sun and the center of the galaxy, we would expect to nearly always be in motion with respect to the ether; an "ether wind" blows through us. Maxwell, who recognized the conflict between "his" equations and Galilean relativity / Newtonian physics, died young and so was not able to complete this work.

Lorentz, Fitzgerald and others had made much progress with the ether theory by the time Einstein emerged. Lorentz had already noted that Maxwell's equations were invariant under the transformations that are now named after him. Fitzgerald proposed that the ether wind contracted electromagnetic systems along the axis of the wind. Poincaré had speculated about the speed of light being a limiting velocity. Sound familiar?

Einstein took a different tack, though, and decided to regard the invariance of the ether-free version of Maxwell's equations, as they presently existed, as sacrosanct. Einstein, working independently, and not aware of the other post-Maxwellians, was the first to realise that the Lorentz transformations (as we now call them) should be viewed as saying something about how space and time relate together, about the geometry of space-time itself. Einstein guessed that the invariance of Maxwell's equations applied not just to electromagnetic objects, but was a property of space-time, and therefore was a constraint on all objects, since they all exist within space-time.

It was Einstein who reformulated Newtonian mechanics to make them compatible with Maxwell's work. Viewed in this light, then, Special relativity is the natural consequence of the merging of Newtonian mechanics with Maxwell's electromagnetism. As an aside I should point out that in the popular accounts of the origins of Special relativity it is usually stated that the Michelson-Morley experiment, which reported the invariance of the speed of light in different directions with respect to the hypothetical ether wind, was the jumping off point for Special relativity; that Einstein pondered on Michelson-Morley's null result. However Einstein was probably unaware of this experiment in 1905—he denied knowledge of it early in his career. Only much later, when perhaps his memory of early events would naturally be suspect, did he claim prior knowledge of the Michelson-Morley experiment.

General relativity is another similar, although not as simple, story. Here Einstein found another invariance in nature—that the laws of

physics look the same to someone falling down a lift shaft as they do to someone floating in outer space; that acceleration and gravity are indistinguishable, on a small scale. To turn this insight into precise mathematical laws Einstein had to call upon his tutor, Marcel Grossmann, to teach him the tricks of tensor calculus and Riemannian curvature. Tensor calculus is a subtle subject—I never really understood it beyond the superficial level at college; getting to grips with this has kept me occupied the last couple of months. Basically tensors are a set of tools that enable you to shift from one general coordinate frame to another and still retain the same laws. If you write down a tensor equation valid in one frame then it is automatically valid in all other coordinate frames; the coordinate frame invariance of tensors is called "covariance". (By "all other frames" I mean any full coordinate system or map—they may be non-Cartesian or warped cords; hence the term "general".) You can do wonderful things with tensors—in fact they are so powerful that it is sometimes hard to see where the maths ends and the physics starts. Assumptions are made within General relativity, and sometimes it is not immediately clear whether they have any physical significance.

For instance the covariant derivative (a derivative that transforms like a tensor) of the metric field (= the gravitational field, which defines the distance between objects) is assumed to be zero. Why? Because it makes the theory simple? No, it turns out that curvature can only be defined with respect to the metric—simply because there is nothing else to define curvature with respect to; hence the metric has to be "flat" in some sense; this is ensured by setting the covariant derivative of the metric to zero. So this assumption turns out to be no more than merely definitional.

Another simplifying assumption Einstein initially made was that one of the components of the covariant derivative (the "connection") was symmetric. I shan't try to explain the details, but assuming a symmetric connection leads to the simplest version of General relativity. A more general version of General relativity relaxes this symmetry whilst still retaining the covariance of the equations, making different experimental predictions. General relativity with this non-symmetric "torsion" could really be called general General relativity, although I suspect that the name won't catch on!

Anyway, that's where I am now, working my way through the torsion version of General relativity. My suspicion is that the torsion is a bit like the cosmological constant—both torsion and the cosmological constant complicate the minimally consistent version of General relativity. The cosmological constant (a covariantly constant term in Einstein's equations that provides an extra impetus to the expansion of the universe) is currently back in favour with astronomers, after being rejected in the 1920s. First the cosmological constant was in because Einstein assumed the universe wasn't expanding, then with Hubble's observations that the distant galaxies are receding it was hastily dropped. Now it seems the Hubble expansion is not de-accelerating as previously thought, and the cosmological constant is back in vogue again. I suspect that torsion, because it also is covariantly consistent with General relativity, also has some truth to it.

Soon I hope to move on to supersymmetry and then supergravity. Supersymmetry intrigues me; every physicist seems to believe in it, yet the evidence for it is scanty. Why? I don't know—yet.

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rec.puzzles Meets the Titan Test

Glen Wooten

Glen sent this message to the (members-only)
mega e-mail list on April 4, 2005.

Below are my responses to some of the statements by posters to the rec.puzzles newsgroup. Although some of the posted answers on that site are incorrect and entertaining, and even though most of the posted answers are to easier questions, if this continues it will lead to the desuetude of the Titan test.

If they want people to thing of them as smart, which I don't blame them for, then they ought to go do something that indicates they really are smart.

Do we want people to "thing" of us? Until a better measure of intelligence comes along, I.Q. tests are the best measuring devices we have. The notion that one must win a Nobel prize to prove smartness is pure folly. Too many factors are at play here. Specialized knowledge, creativity, intelligence, happenstance, collaboration, personality type, and knowing people can all play a role in deciding who will win a prize. Not all Nobel winners have genius I.Q. scores and an I.Q. above a certain level may actually be a hindrance. I also don't view it as our job to "perform" for people.

So what is the Mega Society looking for? Potential great accomplishments or simply the $30.

This is a false dichotomy. It assumes we could have no other purpose—such as the investigation of the upper limits of measuring intelligence or friendship and communication with individuals of a similar disposition. Not every tall person wants to be a basketball player and not every intelligent person wants to be the next Einstein. Einstein himself once said that if he had life to live over again he would choose to be a plumber. Would he have been less intelligent? No, just less famous.

If neither deep knowledge nor broad knowledge is a necessary consequence of intelligence, can you enlighten me on just what exactly _is_ a consequence of intelligence and how the Titan test measures it?

A consequence of intelligence is an ability to understand. The problems on the Titan test require an individual to understand patterns and relationships and make objective decisions. These are all important skills in the real world.

Why do you have to start somewhere? Why don't you document those who you are intending to exclude. Is your club only for those who have a Liberal Arts education?

This is suggesting we start nowhere! If we documented people we intended to exclude, that would be starting somewhere. To my knowledge, Mega Society members are well-educated in most areas, not just liberal arts.

Trivia is trivia whether its source is pop culture or Liberal Arts. If you're so smart, tell us how that correlates to intelligence.

Trivia is not trivia when it comes to psychometrics. Knowing the original colors in a box of Crayola crayons and knowing the capital of Canada are not of equal value. An intelligent person is expected to know general knowledge an inquisitive mind would have acquired through education.

Exactly what is the correlation? Are you trying to say a philosopher who can't program a computer is more intelligent than a computer programmer who doesn't know Wittgenstein from a hole in the ground?

Studies show positive correlations as high as .8 or better. Having a certain job doesn't guarantee one is smarter than other people. Without question, a certain athlete may be smarter than a certain physicist.

Further, it's unclear why knowledge acquisition and retention are evidence of "intelligence" at all! A CD can be burned with the contents of an encyclopedia—does this mean the CD is highly intelligent? (Certainly, the CD doesn't know if the contents are worthwhile, yet the contents represent a broad inquiry into human knowledge!)

Actually, it's not unclear at all. Studies have been going on since the inception of intelligence tests and they confirm the correlation. Consider an intelligent dog that grows up with an intelligent baby. Even if the dog is exposed to the exact same environment as the baby, the dog will not acquire the same knowledge due to its limited mental capacity. The baby, however, will acquire knowledge very rapidly. A CD may contain knowledge but it understands nothing and thus has no intelligence.

Terra Linda

Kevin Langdon

"Terra Linda" is Latin/Spanish for "beautiful land," and the valley of that name is indeed beautiful—but it was more beautiful before it got excessively built-up, after the time to which this account refers, the mid-to-late 1950's (even the signature oak at the freeway exit is long gone).

They'd spoken about moving to the suburbs, but I was shocked when my mom and dad told me that we were moving from our house on Rockdale Drive in San Francisco to Marin County, north of San Francisco, across the Golden Gate Bridge. This would uproot my whole life, except my relationships with family and a few family friends, and I was both apprehensive and excited about the prospect at the same time.

Instead of attending Aptos Junior High School in San Francisco I would be in the 7th grade in a K-8 country school which had suddenly become a transplanted city school, because most of the kids belonged to families who had moved in to this new subdivision of tract homes.

When we moved in construction was still going on. I remember seeing bulldozers rumbling by where back fences had not yet been built behind our house. There was dust everywhere. It was a joke around Terra Linda that the name meant "pretty dirty."

Construction was an overwhelming presence for our first few months in the valley, not only at home but at school and in the surrounding area where we kids used to play. The construction sites and large equipment exerted a certain fascination, alongside our social microcosm and the natural world of the creek, the fields, the trees, and the hills. Some of us just played around the new construction but other kids vandalized it.

The small country school was a shock, with several grades together in one classroom. There was only one eighth-grader, Tom Hurwitz, and some fifth- and sixth-graders along with the four or five of us seventh-graders. At the rehearsal for the graduation ceremony at the end of the first year, I tied Tom's shoelaces together. When he got up to give his speech he moved his feet in tiny little steps and everybody laughed (especially Tom). Incredibly, I didn't get in trouble. Tom went on to be the star of the golf team at San Rafael High School.

Dennie B. Willis, the sadistic principal of the school, doubled as a part-time classroom teacher. He was unfair, punitive, and vindictive (and a lousy teacher, too). I hated his authoritarian rule and rebelled against it at every opportunity. But I was also a "traffic boy," charged with keeping kids safe going to and from our school. It was interesting work and I enjoyed it.

My father was President of the school board for that small suburban district. The school district was having severe growing pains and he felt that he needed to get involved. He was a hospital administrator and had very strong organizational skills. Under his direction the problems began to get resolved.

My dad wanted my sister and me to experience a less urban lifestyle, and he definitely succeeded in that. I have many memories of roaming the hills, lying in the grass, and rafting in the creek, where frogs were everywhere. Sometimes I explored the area with some of the other kids but most of the time I was alone. This gave me lots of time for reflection.

There was still a working farm on one side of the creek. A couple of times some of us got into the large barn where there was some machinery that ran on tracks, for moving supplies around. We played with the machinery but we didn't do any damage.

Among the kids my age, there were two who were particularly physically able and charismatic and two groups formed around them. I was in the group surrounding Joe Melton, the son of an Air Force officer. The other group centered around Ralph "Biff" Moore and tended to be more rebellious. (It certainly wasn't typical of me to be on the more conservative team anywhere, but I was in this case.)

At that time, the Air Force had a stunt-flying team called the Sabre Knights. I saw them perform at Hamilton Air Force Base, just a few miles up Highway 101 (this base was closed many years ago). Joe organized some of us into a group, also called "the Sabre Knights," which rode bicycles in formation. We practiced quite a bit and got pretty good at it (but, of course, the wild wheels-off-the-ground maneuvers common today were practically unknown then).

My two great loves during that period were Joe's sister Pam and Toni Guerrero. I took Toni to a dance once but I never really got anywhere with either of them. Such were the trials of a young nerd. Toni became Biff's girlfriend and Pam got involved with Tom Rundberg, who lived across the street from us.

There was a vacant house not far from Toni's house where the kids used to hang out. Some of those who had coupled up used to kiss and make out there. In addition to Biff and Toni and Tom and Pam, Joe was involved with Toni's sister Ramona ("Mo"). I had no partner and was the odd man out. Because of this, on a day when the rest of the kids were there but Pam hadn't arrived yet, someone had the bright idea of sending me to fetch Pam.

I walked over to the Meltons' house. When I got there and asked for Pam, her mother asked me what was going on. I was annoyed by the situation, especially being sent to fetch a girl I liked for another guy. I remember my exact words: "Joe's kissing Mo, Biff's kissing To, and Tom's waiting impatiently to kiss Pam." "Well, he can keep on waiting!" replied Mrs. Melton. The other kids were mad at me for a while but they knew they'd had it coming and the incident was soon forgotten.

Tom and I were friends, too. We used to get together to play and invent games. Tom's father and mother were Swedish immigrants. Per Rundberg, the father, was a loud, obnoxious drunk who went to parties and hit on the women; my dad saved him from getting punched out for it on more than one occasion. What I didn't know but found out one evening was that when he got drunk enough he groped children too. I got out of there very quickly. In retrospect, I should have gone to the police.

On another occasion, I was visiting Tom in front of his house. He had a basket flimsily attached to the front of his bike with some

wire. I was trying to fix the wire so that the basket would be attached more securely but I cut the wire in the wrong place and it came loose. Tom started to cry and just then his father came out the front door. He asked Tom what was going on and he said, "Kevin cut my bike wire!"

At that, Per hauled off and hit me on the side of the head. I got up and told him to fuck himself. He came toward me again and I ran across the street to my house. As I ran in the front door I heard him raging at my mom and dad and they told him to stick it, too, in somewhat more polite language. After we'd discussed the situation, my dad said that I shouldn't have used such bad language but that he was proud of me for standing up to Mr. Rundberg. After that, I wasn't allowed to play at the Rundbergs' any more. Once again, I should have gone to the police.

Later, after they grew up, Tom and Pete became Scientologists and had their parents declared "suppressive persons" by the Church of Scientology.

We had two very satisfactory cats in Terra Linda, Pussy Willow, a female tabby, and Furry Purry, a part-Persian grey neutered male with long thick grey hair. Pussy Willow was a fearsome huntress and brought home many of her trophies; Furry Purry was a lover, not a fighter.

While we lived in Terra Linda, my dad bought a 28-foot cabin cruiser. It was his pride and joy and the family would go boating on many weekends, weather permitting. I hated it. I was afraid of being at close quarters with my dad for hours on end (because he would sometimes get mad at me and I'd have no place to get away from him; he was never abusive, just strict, and sometimes wrong according to my perceptions at the time, some of which seem more accurate than others in retrospect), often seasick, and bored out of my mind. It took a lot of boring maintenance work, too.

There were two "bad" girls, Cathy and Barbara, in our school. They fought and cursed and were rumored to do other things. One day Cathy had a fit over something and climbed up to the top of the water tower on the hill near our school and threatened to jump to her death. The sheriff's department and the fire department came out in force. It was quite a circus and Cathy had her day in the center ring.

The next day, Barbara did the exact same thing.

One day Tom's brother Pete and I were roaming around in the hills. Cathy's brother Brian and two of his friends were in the same general area and they vandalized some construction equipment. They were apprehended by the sheriff's department. Brian told them that we had done most of the damage and they were just following our lead, and Pete and I were picked up by a sheriff's car.

There were two deputies in the car and they tried to pressure us into "confessing." "Those other boys were man enough to confess," said one of the deputies, and Pete Rundberg started to cry. I didn't feel like crying. I was angry at this injustice. The deputies released us into the custody of our parents.

That evening it developed that a friend of our family, Dorothy Brown, the mother of my sister's and my friends Craig and Bonnie, had seen the whole thing out her kitchen window. Brian was exposed as the liar he was, and Pete and I were vindicated (naturally, the pigs didn't apologize).

The next day, Craig and I were riding our bicycles when we spotted Brian on his bike. We chased the little rat a couple of miles to the cemetery, where he gave us the slip. Then, that evening, my mom got an angry call from Brian's mom; it seems that he'd ridden his bicycle several miles further and then called her to pick him up. Oddly enough, my mom wasn't very sympathetic to the mother of the rat.

While we lived in Terra Linda we attended Mass at Blessed Sacrament Church. The pastor was a priest with a fondness for liquor. My father called him Father Red Nose and made fun of his hypocrisy and stupidity, as when he railed about the people who didn't come to mass on Sunday to the people who did.

As the years went by my dad became more and more cynical about religion and he eventually abandoned it altogether. I could see his point about the external form, but that wasn't what interested me. I felt something in church, something that I couldn't explain, but it was the stirring of what later became a search for something greater than my ordinary day-to-day experience and led to a number of interesting discoveries beyond the scope of this account.

I graduated from the 8th grade in 1956 and I was off to San Rafael High School. Our family moved from Terra Linda to Lucas Valley, the next valley north, an Eichler development which had avoided some of the mistakes that had been made in Terra Linda (overdevelopment, poor construction, inferior floor plans, etc.).

The Indefensible Position:

Road Rage Is Good

Rick Rosner

Reprinted from the May 2005 issue of *Esquire* by permission of the author.

In Flannery O'Connor's "A Good Man Is Hard to Find," The Misfit explains, "She would of been a good woman if it had been somebody there to shoot her every minute of her life." The same goes for bad drivers. They need constant harassment.

You try not to hate them. You think, "Who am I to judge?" You tell yourself that anger hurts your heart and your karma and makes driving more dangerous. That's gutless and wrong. Danger and bad karma lie in surrendering to selfish drivers. One-third of drivers shouldn't be driving. Some are too old or drugged or dumb to drive, but here in L.A., where the sun always shines on your Xterra (leased), most lousy drivers are simply too smug to pay attention.

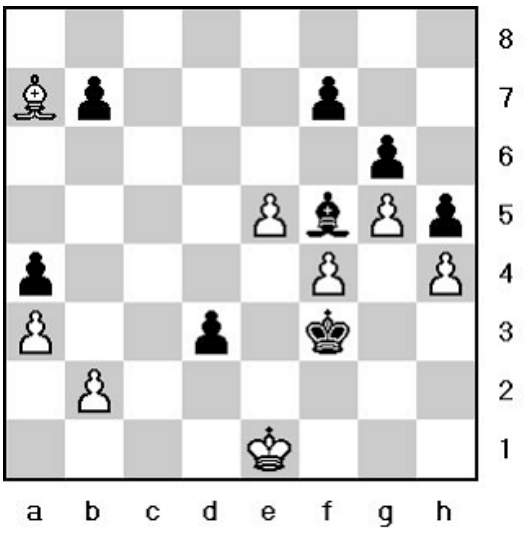
I am the sword of petty and ineffective vengeance. I honk, sneer, curse, flip the bird, try to block drivers who use the shoulder to sleaze past traffic. My anger rarely fazes the targets of my wrath, but it focuses me. I'm alert, hunting for the next object of scorn—an actor, script propped on his steering wheel, doing 25 on Ventura or an old blonde, corgi on her lap, going the wrong way in the Trader Joe's parking lot. Anger is my conscience. I can't rage at some tool's shitty maneuver, then pull the same move myself. And anger is instructive for my ten-year-old daughter, who gets a dime for each bad driver she spots.

Bluetooth, BlackBerry, DVD player, in-dash navigator—so many new distractions. Drivers won't learn to use them safely unless we savagely diss drivers who don't. C'mon—drive angry. Pass judgment on jerks. They've already judged you a nonentity. And don't worry about giving yourself a heart attack. Beta-blockers can keep your BP at 100 over 60 even as you scream at that dick in the Denali tapping away on his PDA.

A Challenging Endgame Problem

What is the best move?

Glenn Morrison



This is a position from Mengarini-Evans, 1951 US Championship. Black to play and win(?). Although on the surface it may appear easy, this position requires analysis more than 50 ply (total moves) deep, beyond the ability of computers to directly fathom. It turns out that white has strong defensive resources here and a win by black is at least very difficult and may be impossible.

Grandmaster Evans (black) won the actual game, which included less than perfect moves by both players, especially his opponent, as revealed by the program Shredder 8, which performs at world championship level on a fast PC.

Next: A tantalizing, tentative attempt at a solution!

The World Puzzle Championship

Ron Yannone

These may not be 1-in-1-million questions, but the time-constrained (2.5 hour) online U.S./Canada Qualifying test could be really exhilarating—for some of the members and non-member subscribers. The top 2 U.S. scorers get to be on the U.S./Canadian team for the "World Puzzle Championship."

The test will be administered online June 18 at 1 p.m. (see article excerpt and website for more information).

The winners will be notified within 5 days of the Test. Results will be posted on the website no later than Saturday, June 25. The answers to the test will be posted no later than one day after the Test.

The top two U.S. contestants will be selected for the U.S. Team to compete at the World Puzzle Championship in Hungary in October, 2005.

I know I can't "work this fast"—but someone like Bill Corley would be able to! Bill tackled the Mega test while proctoring a college exam in about 2 hours (got something like a 35/48)!

World Puzzle Championship

"Random House World-Class Puzzles from the World Puzzle Championships"
2004, ISBN: 0-8129-3586-1

Father's Day weekend marks the traditional timing for the U.S. Open golf tournament. And over the past several years puzzlers across North America have also marked their calendars for the same weekend—in anticipation of the U.S. and Canadian Qualifying Test! In 2002, the test was administered via the Internet. The day before the test, contestants were able to download the encrypted puzzles from the U.S. team web site. They also received the actual instructions to all 23 puzzles for the 2½-hour test, in order to familiarize themselves with the challenges that lay ahead. Only the puzzle artwork was kept secret. Then at precisely 1:00 p.m. Eastern time the password was given, and the contestants were off and running.

For more information, see **http://wpc.puzzles.com/rules/index.htm .**

Argument in Favor of the Proposed Constitutional Amendment.

Chris Cole

Here are some points that that I think are in favor of the proposition:

1. All the active members have email and Web access.
2. Probably the same is true of inactive members.
3. Web publication allows us to eliminate subscription fees.
4. The elimination of subscription fees may entice some inactive members to become active.

5. Web publication makes the members' submissions available to a wider audience.
6. We have no volunteer to publish *Noesis* in hard copy.

A Belated Discovery

Richard May
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I'm a highly perceptive person, so I was quite disconcerted to discover about a week ago that I had actually been dead for more than two years. Apparently I never really noticed that had I died, because I was so distracted by sending myself e-mails, irradiating my brain with cell-phone EMF, having my Volvo tattooed and putting on I-shadow.

It's really a life-altering experience to suddenly learn that you have been dead for years. None of my closest friends noticed my passing either. Perhaps they had also deceased and were too busy making a living. It's never very clear these days, I guess. Naturally I just continue to do everything as usual.

Sometimes you don't get serious about life until you're dead, but maybe not immediately even then. There's really no need to hurry. Now I take a little more time to smell the dead flowers.

At least I'm not an ontological wanna-be. It's not that I wish that I had ever been, but occasionally for a moment I may wish that I wished that I had been. At least nothing has really changed, since I died. In fact I haven't noticed any difference at all.