

Noesis

The Journal of the Mega Society Number 98 October 1994

EDITOR

R. Rosner

5139 Balboa Blvd #303

Encino CA 91316-3430

(818) 986-9177

Many Mega members are increasingly angry at material they, with some justification, consider loony, submitted by non-members. The lack of quality of much of Mega's content is especially apparent when compared to Mike Price's August, 1994, Many-Worlds Issue, which I consider the best stuff ever to appear in *Noesis*.

Members' anger has also been directed at my (lack of an) editorial policy, which has generally been, "If there's room for it, I'll run it, even if it's drivel." And there's always room, because the most clever members hardly ever submit stuff, and because the most clever material is extremely concise.

Up 'til now, all one had to do to be an active Mega member was have a high enough IQ and send in subscription money. Chris Cole and I have determined the following new requirement for continuing membership—you must submit at least 10 pages per year for *Noesis*. If you don't, your membership is frozen, and you cease to receive any more issues of this fine rag until you send in some stuff. Chris counts 17 active members, which, times 10 pages per year, is enough to squeeze out lots of the low-quality stuff that currently gets in. I'll be forced to do my job as editor, which, as you've noticed, I've been able to avoid for years.

So, grab whatever scribbings you have lying around and cram them in an envelope, e-mail or actual. As I've repeatedly stated, it doesn't have to be your best most polished stuff since even your sloppy stuff is better than lots of the material that's appeared in the last couple dozen issues. And while conciseness is nice, your articles need not be whittled down to crystalline incomprehensibility. If you've developed an efficient algorithm, include with your clean derivation some interesting sidelights—the algorithm in action, what made you think of it, what was on TV while you were looking up integrals. Price's article has an easy conversational style which could be emulated.

DO NOT consider this new requirement an excuse to drop your membership. The requirement has some slack built in and will be administered in a nonpricklike manner. Y'all are good thinkers and writers, even when you're not trying to be, so help us create a surplus of material that'll force a survival of the fittest editorial policy. Thanks.

As my contribution to the ten-page requirement, I'm running an installment of a novel I've been working on for two years and hope to finish by the end of '94. For normal reasons of paranoia and self-doubt, I haven't wanted to share it with y'all, but the heck with that.

And with the recently-resurrected IQ CONTROVERSY, shouldn't you have something to say on the subject to your fellow high-IQ dweebs? C'mon, if you're a closet eugenicist, this is a perfect place to out

yourself, and if you think that the only people selective breeding should eliminate are eugenicists, here's the place to say it. We currently have maybe one active female member. Is that cuz girls are dumb or cuz they're too smart to waste their time on things like this?

Notice, also, that by sharing Litton's Problematical Recreations with us, Ron Yannone fulfilled much of his 10-page requirement. By finding other people's good stuff to reprint here, you too could fulfill your page requirement.

To digress--Earthquake repairs are starting on many L.A. dwellings whose owners took this long to get the needed money. Outside my window, the stucco guys are making me crazy by playing a really lame radio station (The Carpenters!). The radio might belong to a condo resident who makes me cringe by loudly hocking a loogie into the bushes each morning.

IN THIS ISSUE

HIGH-IQ ZYGOTES FOR SALE by MARK OLLER

POSTCARDS FROM RICHARD MAY

THE CRYPTO-ANALOGIES TEST by DARYL INMAN

ANSWERS TO LITTON'S PROBLEMATICAL RECREATIONS by RON YANNONE

TWO ARTICLES FROM ROBERT DICK

LETTER FROM MARK KANTROITZ ON DIVISIBILITY BY SEVEN

A HARD-TO-SOLVE NUMBER SERIES FROM J. ALBERT GEERKEN

LETTER FROM CELIA MANOLESCO CONCERNING LANGAN ET AL VS. HANNON

ANSWERS TO ROBERT DICK'S *SWAT* (which appeared in issue 94)

RELATIVELY COMMON MISCONCEPTIONS by ROBERT LOW

Brave New World
P.O. Box 9521
Alexandria VA 22304-9998

Dear Mr. Rosner:

I wish to submit the following advertisement for publication in your journal.

Brave New World was established to fertilize the egg cells of the most brilliant women with the sperm cells of the most brilliant men and sell the zygotes to women wishing to have genius children. The sperm and egg cell donors will be paid a generous portion of the profits, and their anonymity is guaranteed. Call 1-800-651-2780.

Sincerely,
Mark Oller

[Ed's note--If I got \$50 for each time I've laid down (alone) to make a sperm donation, I'd be pushing half a million bucks by now.]

POSTCARDS FROM RICHARD MAY

Dear Rick,

I recently disproved with the utmost rigor all previous logic, mathematics and physics, but seem unfortunately to have misplaced my work. CTMU was shown to be an empty-set tautology, and my own being an infinite regress. Perhaps later a note on fundamentalism and hemorrhoids, functional and etymological analogues.

Best, Richard

Dear Rick,

Have you by chance read or scanned the book *The Physics of Immortality* by Frank J. Tipler? (Tipler was the co-author with Barrow of *The Cosmic Anthropic Principle*.) Tipler has a Ph.D. in global, general relativity and impresses me as an exceedingly smart mother. Tipler states that to grasp the appendix of the book one should have a Ph.D. in global relativistic physics, a second Ph.D. in theoretical, particle physics, and a third Ph.D. in computer complexity theory, whatever that is.

Richard

[Ed's reply--By coincidence, I scanned the first 100 pages of Tipler's book a week before receiving your card. Seems on first ignorant glance his immortality rests on a fairly long string of conclusions based on current physics which I believe like all past physics will eventually be supplanted. However, I agree with Tipler that immortality is a subject which belongs in the realm of physics and is a question which will someday be adequately addressed by simpler arguments than his. My very stupid guess is that the possibility of immortality is tangled up in whether the number of possible (many worlds) universes is countably or uncountably infinite, which leads me to ask, "Hey Mike Price, what do you think of Tipler and the various anthropic principles?" I and other readers would be superhappy to see something from Price on this.]

THE CRYPTO-ANALOGIES TEST by Daryl Inman

[Ed's note--Scrambled answers are printed first to save a little space.

Answers are not in order. Turn to the next page to see the analogies.

Inman says TOPS members scored an average of 40 out of 45.]

OGLOGO
UNQTUAAA
PYTGREHOLP
LERAAIPEELDPLP
PUSGILOOHGAO
OGOLLTYP
IATTNCLINOSLI
ETIISRPLSAS
SIRTAMLU
MTRHIIAMTSDID
D'TIBESATEU
IETICEENKLT
OASEERMHP
LOHIEPOHD
ROAOEHPTN

APEHH
NCSSAIYO
QEBAORU
EENMNA
IEWN
PAPRTDOSA
EKGER
SUBMELO
ALCERUUSPRC
COEYGAMN
SSONMA
MGAAEIMTSDNI
NEETCIHSU
POTNYER
EUAGLMO

HACSOYGOETL
UUUSSCBC
EPO
IDODLMAEUC
YOTAMGOHAULT
RORAPZI
HMSSO
GMIAC
BGOCRY
TALTEPUNEMI
EARPCS
EAUISTNNR
MAUYSRP
LIEHRPT
OFCNUIREM

The Crypto-Analogies Test

Daryl Inman
P.O. Box 92
Mexia, Texas 76667

Here is a test which can be solved one of two ways: either one can solve these analogies outright or solve the scrambled answers and then fit them to the appropriate analogies. I will score each person's responses for \$5.00 and provide the answers. Also included in the score report is a list of eleven high IQ societies, their addresses and entrance criteria.

1. STEEL BALL:BRINELL::FINGERNAIL, COPPER PENNY, PENKNIFE, STEELFILE:?
2. SLING:DAVID::JAWBONE:?
3. DARK:DIM::NOCTURNAL:?
4. 51:50::ULTIMATE:?
5. SEX:LOVE::APHRODISIAC:?
6. CENTRIPETAL:CENTRIFUGAL::MAGNETISM:?
7. FEAR OF VEHICLES:OCHOPHOBE::LOVE OF TRAVEL:?
8. 10 TO THE POWER OF 30:NONILLION::10 TO THE POWER OF 100:?
9. ENERGY CONTENT:ENTHALPY::DEGREE OF DISORDER:?
10. VEGETARIAN:HERBIVOROUS::DIETER:?
11. CHURCH THINGS:ECCLESIOLOGY::LAST THINGS:?
12. PRENATAL:POSTNATAL::EUGENICS:?
13. MACHINE:ANDROID::MAN AND MACHINE:?
14. AZTEC:INCA::CORTEZ:?
15. HOLMES:DOYLE::DUPIN:?
16. 5,880,000,000,000:LIGHT-YEAR::19,200,000,000,000:?
17. VERTICAL:HORIZONTAL::DYSPNEA:?
18. MOZART:BACH::CLASSICAL:?
19. HANDS:ARMS::SIGN LANGUAGE:?
20. STRETCH:RACK::DROP:?
21. GALLON:BUSHEL::BATH:?
22. PICTURE:HIEROGLYPH::WEDGE:?
23. MOSES AND ROCK:WATER::JESUS AND WATER:?
24. HELIUM:LEAD::AERONAUT:?
25. HEART:SYSTOLE::ALIMENTARY CANAL:?
26. ROMEO:JULIET::THISBE:?
27. OLD:HEBREW::NEW:?
28. LECTURE MATH, HISTORY, SCIENCE:POLYMATH::SPEAK ENGLISH,SPANISH, FRENCH:?
29. 10:DECIMAL::12:?
30. YELLOW:BLUE::JAUNDICE:?
31. PATHOGEN:INOCULATION::POISON:?
32. TOMB:HIEROGLYPH::CAVE:?
33. BLOOD:SEX::LAMIA:?
34. VOLATILE:MERCURIAL::INERT:?
35. CARDS:TELEPATHIC::DICE:?
36. EGOCENTRICITY:AUTISTIC::THINKING IS DOING:?
37. RUN:OLYMPIAN::RUN AND SING:?
38. SELF:OTHERS::EGOISM:?
39. CLOT:BUBBLE::THROMBUS:?
40. TOUCH:STEP::DACTYLOLOGY:?
41. ECLIPSING:OCULTATION::TWINKLING:?
42. CONTROL OF EVIL SPIRITS:NECROMANCY::HAND FULL OF DIRT:?
43. LAWS:TEN COMMANDMENTS::BLESSINGS:?
44. SALVATION:SOTERIOLOGY::THE LAME WALK, BLIND SEE, DEAF HEAR... :?
45. 15 SIDED POLYHEDRON:QUINDECAHEDRON::BASE OF PRISM BOUNDED BY A PARALLELOGRAM:?

ANSWERS TO LITTON'S PROBLEMATIC RECREATIONS

by Ronald Yannone

- 1.) There are $4!$ or 24 possible permutations of 4 cars. Only one of these is in increasing rank of license magnitude. Thus there is one chance in 24. The number of cars in the lot (999) is irrelevant.
- 2.) The probability is one, since any three points on the surface of a sphere are always located on the same hemisphere.

3.) $\frac{(3!)!}{(3!)(3!)}$ or $\binom{3+3}{3}$ or $\frac{3!}{.3}$

- 4.) Turning! (as on a lathe). A cube with side D can be turned down to a cylinder of diameter D. This can be turned down about an axis at right angles to the first, and the resulting solid further turned down about the axis normal to the other two. Straightforward (if slightly tedious) integration gives the results $\frac{S}{6D} = \frac{V}{D} = \frac{\pi}{4}$, $\frac{2}{3}$, $2\sqrt{2}$ for the three

solids.

- 5.) The weights are proportional to the volumes. The volume of the original icicle was $\frac{20\pi r^3}{3}$, where r is the radius at the top.

The volume a few hours later is $\frac{40\pi R^2 r}{3}$, where R is the

radius of the larger icicle. If THETA is the generating angle of the original icicle, $R = 20 r \tan(\text{THETA})$. $\tan(\text{THETA}) = 1/10$, therefore

$$R = 20 r \frac{2(1/10)}{1 - (1/10)^2} = \frac{400}{99} r, \text{ so that the ratio}$$

of the two volumes is $2(400/99)^2$ or approximately 32.65. The new icicle, therefore, weighs almost 33 times as much as it weighed before.

- 6.) Squares in the scale of 5 can end only in 0, 1, or 4. In the scale of 10, a 0 must be preceded by a 0, and 1 or 4 must be preceded by an even number. These even numbers in the penultimate position must be 0, 2, or 4, since 6 and 8 would be impossible in the scale of 5. Proceeding in this way, imposing similar restrictions on the other digits, we find 232324 as the only number which is a square in both bases. $232324 = (332)(332)$ in the scale of 5 and $(482)(482)$ in the scale of 10.
- 7.) Let $1, a, b, \dots, n$ be the divisors of n in increasing order, and suppose $1/1 + 1/a + 1/b + \dots + 1/n = 2$. Multiplying through by n , we have $n + n/a + n/b + \dots + 1 = 2n$ or $n/a + n/b + \dots + 1 = n$, where the left side consists of the proper divisors of n in decreasing order. By definition n is "perfect," the next two perfect numbers after 6 being 28 and 496.
- 8.) The only orthonym in English is TWENTY NINE. Polyglots are invited to find orthonyms in other languages.
- 9.) $13!$ factorial = $1*2*3*4*5 \dots 10 \dots 13$. Since five is a factor of multiplicity two, $13!$ must end in TWO zeroes. The first number is, therefore, the right one. Alternate solution: the second and third numbers are not divisible by 7.
- 10.) The given series is the product of the two series $1 + 1/2 + (1/2)^2 + \dots$ and $1 + 1/3 + (1/3)^2 + \dots$, whose respective sums are 2 and $3/2$. The answer is, therefore, 3.
- 11.) After performing this interpolating and halving N times, the sum of the series will be $\frac{3 \cdot 2^N + 1}{2^N + 1}$. As N approaches infinity, this approaches the limit $3/2$.
- 12.) A radius of length $1/y$ with one end moving along the x axis (equator) and the other end at height y (latitude) generates a curve in which $K = 2y$, based on the equation

$$\frac{dy}{dx} = \frac{y}{\sqrt{(1 - y^4)}} \quad . \quad \text{If the radius makes angle THETA}$$

with the x axis, $y^2 = \sin(\text{THETA})$, and the equation transforms to

$$x = \int_0^{\pi/2} \frac{\sqrt{\sin(\text{THETA})}}{2} d\text{THETA}$$

for each quadrant. Thus $\overline{AB} = 2x =$ a trifle less than 1.2 miles.

- 13.) Except for (3,5), all prime pairs are of the form $(6N-1, 6N+1)$ with product $36(N\text{-squared}) - 1$. The digital sum being simply the residue modulo 9, we note that $36(N\text{-squared}) - 1 \equiv -1 \equiv 8 \pmod{9}$.
- 14.) The number k is seen to occur first at the $((k(k-1)/2) + 1)$ th position. Calling this latter expression n and solving for k ,
- $$k = \frac{1 + \sqrt{8n - 7}}{2}$$
- In general, by the nature of the progression, the n th term is the greatest integer less than or equal to this expression. The millionth term is, therefore, 1,414.
- 15.) Let each expression $= y$. Squaring both sides, $y^2 = x + y = xy$. Hence $y = x$, $2x = x^2$, and $x = 0$ or 2 .
- 16.) International chess laws provide that when neither K nor R has moved and there are no obstructing pieces, K may move 2 squares toward R while R occupies the square over which K passes, provided K is neither in check nor passes through a threatened square. Therefore: 1. Pawn is promoted to rook. Now regardless of black's response, 2. White castles on the king's file! Checkmate. Purists take note: the promoted rook has not moved as it is on its "natal" square. Blame, not us, but the rules which permit this esoteric loophole. (This was as of 1971).
- 17.) Connect the 3 midpoints forming 4 smaller equilateral triangles with $4 \frac{1}{2}$ inch sides. At least 2 of the 5 points lie in the same triangle; hence the maximum value of d is $4 \frac{1}{2}$ inches, obtained by choosing any 5 of the 3 vertices and 3 midpoints.
- 18.) Since $(H + 10A)(A + 10H) = 1001T + 100H + 10A$, $1001T = (A + 10H)(H + 10A - 10)$. The factors of 1001, namely 7, 11, and 13 must divide the right member, and only the value $T = 6$ permits an integral solution. Hence THAT is 6786.
- 19.) There is only one feasible answer. Junior is 36 and Dad is 72. Their respective ages on the eight previous birthdays were: (1,37), (2,38), (3,39), (4,40), (6,42), (9,45), (12,48), (18,54).
- 20.) Dr. LaRouche was buying numbers (for doors, gates, etc.) and the price was 10 cents per digit.

EXCERPTS FROM 'THE SPLENDOR OF TRUTH'

By Pope John Paul II

Excerpted and Subheadings by Robert Dick. Note: This article is in the public domain.

101. ... Today, when many countries have seen the fall of ideologies which bound politics to a totalitarian conception of the world--Marxism being the foremost of these--there is no less grave a danger that the fundamental rights of the human person will be denied and that the religious yearnings which arise in the heart of every human being will be absorbed once again into politics. This is the risk of an alliance between democracy and ethical relativism, which would remove any sure moral reference point from political and social life, and on a deeper level make the acknowledgement of truth impossible. Indeed, "if there is no ultimate truth to guide and direct political activity, then ideas and convictions can easily be manipulated for reasons of power. As history demonstrates, a democracy without values easily turns into an open or thinly disguised totalitarianism." [Encyclical Letter Centesimus Annus (1 May 1991), 46: AAS 83 (1991), 850.]

Thus, in every sphere of personal, family, social and political life, morality--founded on truth and open in truth to authentic freedom--renders a primordial, indispensable and immensely valuable service not only for the individual person and his growth in the good, but also for society and its genuine development.

Good and Evil are both Objective and Absolute

104. ... [A]ppropriate allowance is made both for God's mercy towards the sinner of the man who experiences conversion and for the understanding of human weakness. Such understanding never means compromising and falsifying the standard of good and evil in order to adapt it to particular circumstances. It is quite human for the sinner to acknowledge his weakness and to ask mercy for his failings; what is unacceptable is the attitude of one who makes his own weakness the criterion of the truth about the good, so that he can feel self-justified, without even the need to have recourse to God and his mercy. An attitude of this sort corrupts the morality of society as a whole, since it encourages doubt of the objectivity of the moral law in general and a rejection of the absoluteness of moral prohibitions concerning specific human acts, and it ends up by confusing all judgments about values.

Loss of the Moral Sense

106. Dechristianization, which weighs heavily upon entire peoples and communities once rich in faith and Christian life, involves not only the loss of faith or in any event its becoming irrelevant for everyday life, but also, and of necessity, a decline or obscuring of the moral sense. This comes about both as a result of a loss of awareness of the originality of Gospel morality and as a result of an eclipse of fundamental principles and ethical values themselves. Today's widespread tendencies toward subjectivism, utilitarianism and relativism appear not merely as pragmatic attitudes or patterns of behaviour, but rather as approaches having a basis in theory and claiming full cultural and social legitimacy.

Statistics CANNOT Define Morality

112. ...The affirmation of moral principles is not within the competence of formal empirical methods. While not denying the validity of such methods, but at the same time not restricting its viewpoints to them, moral theology, faithful to the supernatural sense of the faith, takes into account first and foremost the spiritual dimension of the human heart and its vocation to divine love.

In fact, while the behavioural sciences, like all experimental sciences, develop an empirical and statistical concept of "normality", faith teaches that this normality itself bears the traces of a fall from man's original situation--in other words, it is affected by sin. Only Christian faith points out to man the way to return to "the beginning" (cf. Mt 19:8), a way which is often quite different from that of empirical normality. Hence the behavioural sciences, despite the great value of the information which they provide, cannot be considered decisive indications of moral norms. It is the Gospel which reveals the full truth about man and his moral journey, and thus enlightens and admonishes sinners; it proclaims to them God's mercy, which is constantly at work to preserve them both from despair at their inability fully to know and keep God's law and from the presumption that they can be saved without merit. God also reminds sinners of the joy of forgiveness, which alone grants the strength to see in the moral law a liberating truth, a grace-filled source of hope, a path of life.

Democracy CANNOT Define Morality

113. ...While exchanges and conflicts of opinion may constitute normal expressions of public life in a representative democracy, moral teaching certainly cannot depend simply upon respect for a process: indeed, it is in no way established by following the rules and deliberative procedures typical of a democracy.

Once Again, 'Thou Shalt NOT'!

115. Each of us knows how important is the teaching which is the central theme of this Encyclical and which is today being restated with the authority of the Successor of Peter. Each of us can see the seriousness of what is involved, not only for individuals but also for the whole of society, with the reaffirmation of the universality and immutability of the moral commandments, particularly those which prohibit always and without exception intrinsically evil acts.

Finally, 'Blessed are the Merciful'

118. ...Christ came not to condemn but to forgive, to show mercy (cf. Mt 9:13). And the greatest mercy of all is found in his being in our midst and calling us to meet him and to confess, with Peter, that he is "the Son of the living God" (Mt 16:16). No human sin can erase the mercy of God or prevent him from unleashing all his triumphant power, if we only call upon him.

- August 6, 1993 - Excerpted August 14, 1994

CONCERNING THE ESCHER-ESQUE

By Robert Dick
13 Spear Street, Somerville, NJ 08876

In reply to Bob Hannon: He writes (Noesis 95, page 15) that he knows of no fundamental disagreement between him and me. I do know. He wrote that a "wave analyzer" or a Fourier series can react in the present to events in the future. I disagree. I don't know what disagreement can be more fundamental than that.

I think I have now found the perfect word to describe Mr. Hannon's theories: Escher-esque. I admire the work of M. C. Escher. I have a drawing of his posted on my office wall. This drawing shows a rectangular building topped with a staircase which is constantly ascending, or constantly descending, all the way around the building, depending on one's point of view. Such a building is physically impossible. Nevertheless, Escher defies the observer to refute the drawing's thesis.

So it is with Mr. Hannon's theories. In the one theory I understand he has made a fundamental mistake about Fourier series and Fourier transforms. No physicist or mathematician that I am aware of has discussed the possibility which Mr. Hannon claims is fact--it is too outlandish. I am quite sure Fourier never claimed his transform or series ever defied causality. Mr. Hannon apparently does not seem to realize that he has propounded a paradox which, if true, defies, not the laws of physics, not the laws of mathematics, but the very concepts of time and causality themselves. I hate to say it, but it is the laws of metaphysics Mr. Hannon defies, without even knowing it.

What I find so painful about Mr. Hannon's ideas is that theories about "traversable wormholes" or "parallel universes" which have appeared in Noesis may be Escher- and/or Hannon-esque themselves, in spite of their authors' best intentions. I can't tell. I just worry about the possibility.

Frankly, I don't give a darn whether mankind can escape the coming death of the sun. I worry too much about mankind's death-wish and nihilism in the short run, as manifested, for example, in liberals' love for Mutual Assured Destruction (MAD). Escher-esque ideas applauding MAD and denigrating missile defenses are not funny (at least not to me). Especially when these ideas come from highly intelligent physicists from my alma mater, MIT. How can these people be trusted to come up with righteous cosmology when their not-so-hidden aim is the death of mankind? I am not kidding about this, even though the death-wish of prominent physicists sounds outlandish.

I plan to write an article called "The Treason of the Geniuses" about Robert Oppenheimer and others giving the atomic bomb to Joseph Stalin. But there's no rush. After all, I have three months to think up things to write for the next issues of Noesis. Would that it were not so.

October 22, 1994



2010 Wendover Street, Apt #1
Pittsburgh, PA 15217

412-422-6190

September 24, 1994

Noesis
c/o Rick Rosner
5139 Balboa Blvd. #303
Encino, CA 91316-3430

Greetings,

In one of her recent columns, Marilyn vos Savant stated that there is no simple rule for testing divisibility by 7 (e.g., a number is divisible by 3 if the sum of the digits is divisible by 3, and by 11 if the alternating sum and difference of the digits is divisible by 11). This is incorrect. It took me less than a minute to formulate such a rule.

To test whether a number is divisible by 7, remove the least significant digit and subtract twice its value from the rest of the number. This new number is divisible by 7 if and only if the original number is divisible by 7. If the new number is not obviously divisible by 7, repeat the process. For example,

$$3857 \rightarrow 385 - 2*7 = 371 \rightarrow 37 - 2*1 = 35$$

The proof that this works is simple; in effect, one is subtracting a multiple of 21 from the number. Since 10 is relatively prime to 7, we can cancel a factor of 10 as well.

As the only columnist writing about mathematics in the popular press, Ms. Savant should be a more careful when making such definitive statements. Just because she was right about the Monty Hall problem does not mean she is infallible, as demonstrated by her naive statements about Fermat's Last Theorem and this most recent error. Moreover, her phrasing of the Monty Hall problem was sufficiently ambiguous to elicit misinterpretations even from established mathematicians. If one assumes that Monty randomly opens doors (instead of always opening a door hiding a goat), there is no advantage to switching. But even with the correct interpretation, mathematicians will be fooled - just look at the original publication of this problem, in

Steve Selvin, "A Problem in Probability", American Statistician
29(1):67, February 1975.

He received so many letters contesting the accuracy of his solution that he published a response two issues later in the August issue.

At least I, who have a background in mathematics (Bachelor of Science in Mathematics from the Massachusetts Institute of Technology, recipient of the Courant Institute Prize for Mathematical Talent, Westinghouse winner, etc.) know enough to recognize what I don't know.

I would write to Ms. Savant directly, but given the volume of mail she receives, she is unlikely to read the letter, nor to respond even if she did read it.

Best regards,

Mark Kanrowitz

J. ALBERT GEERKEN
P. O. BOX 293
NEWARK VALLEY, N. Y. 13811 - 0293

Rick Rosner
5139 Balboa Blvd, # 303
Editor NOESIS
Encino, CA 91316

October 31, 1994

Dear Rick:

Your name and address were supplied to me by Ronald K. Doeflin, the author of the MEGA Test. We have corresponded quite frequently, ever since I was one of his guineapigs in developing his MEGA TEST.

Considering the high level of scoring requirements on that test, I assume the number of members in your MEGA SOCIETY is quite slim, compared with that of lower level societies. But some number series enthusiasts in your group may be interested in a conundrum I devised that, so far, has stumped ISPE members and even a Doctor in Mathematics in Corsica to whom it was referred. It was recently published in the journal of PROMETHEUS (GIFT of FIRE), of which I am a member.

Before I state the problem, I should mention certain conditions:
1) Only simple arithmetic is to be used in solving it, that is, only integers and common fractions, no letters as in Algebra or other symbols used in different disciplines. 2) Just the answer is not sufficient. An explanation of how it was arrived at (no more than four or five short lines) is required. 3) Consultation with others is hereby "contra-indicated," as pharmacists would put it. 4) the use of computers is "verboden," although I doubt they would be of any help.

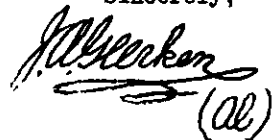
Here is the number series:

15 1/4 6 1/2 3 15/16 2 15/16 ?

This is my last effort to accomplish a great feat, like "The Old Man and the Sea," in Hemingway's superb novel (I'm four score plus 6).

Sincerely,

If you publish this I would appreciate a copy in which it appears.



LETTER FROM CELIA MANOLESCO

October 26, 1994

Dear Editor--

I just received no's 94, 95, and 96 of *Noesis*.

Like Robert Hannon, I only belong to the lowly Societies consisting of the ISPE, the TNS, and Mensa. I freely admit that I do not qualify for the Mega Society, but I must learn, somehow, to overcome my grief at this humiliation.

However, I am getting very very tired of the way you people continue to put him down, insult him, and question his sanity.

In issue 94, Chris Langan suggests that Robert Hannon not be permitted to publish in your journal unless a member of the Mega Society agrees to be accountable for what he writes. If this type of censorship takes place I will discontinue my subscription to your journal

Chris Langan is entitled to his opinions but so is Robert Hannon. Just because someone does not agree with Einstein's Theory of relativity does not automatically make him a crackpot. Many great creative geniuses were ridiculed in their lifetimes.

Besides, what is so great about figuring out what the probabilities are of ants at the vertices of a tetrahedron, a cube, an octahedron, a dodecahedron and an icosahedron, encountering or not encountering one another? Perhaps Robert Hannon has better things to do with his time than trying to figure this out.

Just what is light anyway and why should it travel at all?

The Kabbalists do not believe that light travels because, according to them, it is everywhere and is revealed to us through various vehicles such as light bulbs, candles, the sun, and the stars.

Wilhelm Reich did not believe that light travels either but thought that it was a "local phenomenon."

I know that it is easy to dismiss these people as crackpots, and they may be mistaken but they still have a right to express themselves.

I think that Robert Hannon is a very courageous and long-suffering person when he has to put up with the type of diatribe that people like Chris Langan expose him to.

What are Chris Langan's qualifications anyway? What degrees does he have? What great contributions has he made to society recently? I would like to know.

At least Robert Hannon is creative enough to think for himself.

Why doesn't Chris Langan take a trip on a rocketship to some distant planet and simultaneously send pictures of it back to earth, and explode a huge bomb on the planet's surface? What will we see first, his transmissions of pictures on our computer screens, or the actual explosion of the bomb on the planet?

Perhaps this simple experiment will settle some of these questions.

Sincerely,
Celia Manolesco

ANSWERS TO THE SWAT by ROBERT DICK

1) The next term is "f". The rest of the series is:

Q h 4 + +

This series is algebraic chess notation for fool's mate, thusly:

1 f3 e5

2 g4?? Qh4++

To those of you who chose "f": Shame on you for choosing a technical trend when a fundamental idea was called for.

To all who missed this problem: How can you be qualified to discuss war, disarmament, and peace, if you can't even recognize fool's mate?

2) Job 28:28: "... See! Fear of the Lord is wisdom;
To shun evil is understanding."

3) The answer is obvious once we recall that Einstein once wrote a letter to President Roosevelt urging the invention of the atomic bomb. Einstein, for the good of his soul, should have gone to postwar Japan and visited there two now-famous cities.

I welcome the proposal of additional WAT questions, though I doubt the Wisdom Society will in fact adopt an aptitude test. --Robert Dick

Robert Low
1A Stoney Road
Cheylesmore
Coventry CV1 2NP
ENGLAND

Tel: +44-203-222720
email: robblow@cov.ac.uk

A foolish consistency is the hobgoblin of little minds—Emerson

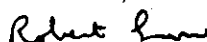
October 25, 1994

Rick Rosner/Noesis
5139 Balboa Blvd #303
Encino CA 91316-3430
USA

Dear Rick,

here's yet another comment, ostensibly on Special Relativity (though anybody who actually bothers to read it will realise that SR is just used as a vehicle for the main point) if you want to use it for Noesis. I've tried to make it conform to the physical specification you give in the June issue. You should know that a slightly different version has already appeared in *Telicom*, and attracted the usual collection of *non sequiturs* from Bob Hannon. Feel free to submit it to review by a Mega member as Chris Langan suggests in the June issue. Since he suggested it, it would be only fair if he had to do the reviewing ...

All the best,



Robert Low

Relatively Common Misconceptions

Robert J. Low

1A Stoney Road, Cheylesmore, Coventry CV1 2NP, England

email: roblow@cov.ac.uk

Apology

I will consider herein some common arguments used to criticise special relativity (henceforth abbreviated as SR). After analysing each of them, and providing a brief defense of the theory's consistency, I shall consider the common feature of each of the arguments, and extend this in way that I hope will be of more general interest.

Criticisms and defenses

There are many standard arguments proposed to demonstrate inadequacies or inconsistencies in SR. I shall consider only three, which seem to me to be fairly representative.

1. SR says that all motion is relative, therefore of two moving clocks, which separate and then rendezvous, each can argue that the other should show less elapsed time. Therefore SR is inconsistent.
2. SR is incapable of dealing with accelerations, therefore general relativity is required to resolve the clock paradox.
3. Moving clocks run slow. But if A and B both have clocks, and A 's clock is running slow relative to B 's, while B 's is running slow relative to A 's, then A 's clock must be running slow relative to itself, a blatant contradiction.

As regards the first argument, we simply observe that although all motion may indeed be relative, SR does **not** say that all forms of motion are equivalent. It is in fact a postulate of the theory that there is a family of preferred states of motion, namely those consisting of unaccelerated motion; attached to each of these states of motion is a corresponding coordinate system, also called an inertial frame. SR tells us how to change our point of view so as to take any given one of these coordinate systems as at rest. If one clock is accelerating with respect to another, they cannot both be moving at constant velocity, and therefore at least one of them may not be taken as being at rest for the purposes of the argument.

What about the second? The assumption of the second argument is almost as wrong, but in exactly the opposite direction. Of course SR is capable of dealing with accelerating objects; it would be of little use in the study of particle interactions otherwise! An analogy would be to say that the geometry of Euclidean space does not allow the consideration of curves. In SR we can take any particle moving at constant velocity, and consider what physics looks like in the coordinate

system in which that particle is at rest; the relationship between this coordinate system and any other constant velocity one is given by the famous Lorentz transformation. What we cannot do is attempt to treat an accelerating particle as at rest. We can—and do—consider the motion of such a particle in any given inertial frame.

For the third argument, we must note that when we compare clock rates in two relatively moving inertial frames, we are not comparing the same clocks all the time. To compare clock rates, we imagine that each frame is full of synchronised clocks; then suppose that *A* and *B* are just passing each other when we start our experiment. After waiting a little, we compare *A* with the clock it is now just passing in *B*'s inertial frame, and compare *B* with the clock it is now just passing in *A*'s inertial frame. Each finds the clock it is passing to show less elapsed time than itself. There is no contradiction here, because different clocks are being compared.

In fact, the attempt to find internal contradiction in SR by means of arguments such as this is almost certainly futile; the mathematical structure of SR is simply that of a branch of non-Euclidean geometry. The physical interpretation involves regarding some of the coordinates as conveying information about time, and some as conveying information about distance. Since this interpretation differs greatly from the expectations developed by everyday experience, it is occasionally the case that one can find a consequence sufficiently "repugnant to the senses" that a contradiction is erroneously perceived. But this is no contradiction within the theory, only a difference between what one wants and what one gets. It may of course, happen that SR makes predictions which do not correspond to experiment; and in fact it does, when gravitational phenomena are significant. But over a vast and well-defined range of experimental situations, SR is by far the most accurate mathematical model we have to understand, explain and predict experimental results.

Analysis and conclusion

We are now in a position to see that one thing common to each argument is its use of a catch-phrase, or slogan, in an overly naïf way. Each of these slogans does convey a certain meaning to somebody who understands the theory, but it is a different meaning from the one conveyed to somebody who thinks the slogan embodies the theory. As mnemonic devices, these phrases are fairly harmless, but as a substitute for understanding the details they hide, they are downright dangerous.

Now, I have presented all this argument about some criticisms of SR, but the story does not—unfortunately—end there. SR is not the only subject in which this sort of abuse happens. I think in particular about economic policy as presented even by the supposed experts, where the entire understanding seems to be as superficial as what I have criticised above in the realm of mathematical physics. It is perhaps worthwhile for all of us to consider carefully the potential for error involved when we step outside our area of expertise and may unwittingly be using slogans as a substitute for understanding. To return finally to the thought of Albert Einstein, "Everything should be made as simple as possible—but no simpler!"