

Noesis

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EDITORIAL

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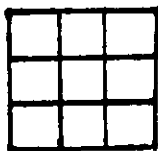
RON HOEFLIN'S LATEST TRIAL TEST

TRIAL TEST 7

Ronald K. Hoeflin
P. O. Box 539
New York, NY 10101

There is no fee to have your attempt at these five problems scored, but if you have not paid \$25 for the entire series of tests you should at least enclose a stamped, self-addressed envelope if you reside in the U.S.

- (1) Suppose an ant tries to crawl along the entire gridwork of wires shown at right starting at any point, covering every portion of wire at least once, and never leaving the wire. What is the minimum distance the ant must crawl in order to successfully accomplish its mission, given that each small square is one inch by one inch, for a total of 24 inches of wire in all it must traverse?



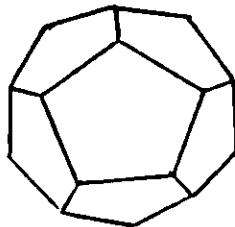
(2) Suppose that wires are strung so as to form the edges of a regular octahedron, one side of which is depicted at right. If an ant crawls along the wires starting at any point, never leaving the wires, and covering every portion of the wire at least once, what is the minimum distance it would have to travel, if each side of each equilateral triangle forming the eight sides of the octahedron is one inch in length, for a total of 12 inches of wire to be traversed?



(3) If lightbulbs are put at two different corners of a square, two distinct patterns are possible: one in which the bulbs are at opposite ends of a side of the square, and one in which the bulbs are diagonally across from one another. If lightbulbs are put at four different corners of a cube, how many distinct patterns are possible?

(4) If lightbulbs are placed at three different vertices of a regular octahedron, how many distinct patterns are possible?

(5) If lightbulbs are placed at two different vertices of a regular dodecahedron, how many distinct patterns are possible? One side of a regular dodecahedron is depicted below.



END OF TEST

A NOTE & OTHER STUFF FROM DARYL INMAN
including KEVIN LANGDON'S LIGHT

Dear Rick,

Could you print this article in *Noesis* and ask the membership what this "Blob" phenomenon is? It appears quite interesting.

Thanks,

Daryl Inman

P.S. Also enclosed is Kevin Langdon's revised J.A.T.T. called the LIGHT. I took it and sent it to Kevin.

32 A

The Dallas Morning News

Thursday, August 6, 1992

Unconquerable 'blob' baffles, bedevils Venezuelan motorists

By Gary Marx

Chicago Tribune

CARACAS, Venezuela — The driving is easy. The road is smooth. And then, suddenly, the car spins and swirls out of control as it skates along a layer of goo that mysteriously covers highways here.

Venezuelans call the goo "La Mancha Negra" — the black stain — but it's really more like a blob, a thick black sludge with the consistency of chewing gum. No one knows where it comes from. No one knows how to get rid of it.

Some say it's oil oozing from lousy asphalt. Others say it's oil falling from overworked car engines. It could be burned rubber from frayed tires. Some people think it's all of the above.

Motorists are petrified of the blob. Government officials are embarrassed and baffled. They've spent millions of dollars trying to find out what it is, using some of the country's best minds and experts from the United States, Canada and Europe.

They've formed a national commission to study the blob, and even a federal judge is investigating.

"We don't know what it is. We clean it away and it comes back the next day. It's frightening," said Arturo Carvajal, an engineer and vice president of a company trying to remove the goo from a major Caracas highway.

Mr. Carvajal's company and six others have tried washing away the blob with pressurized water and detergent. They've tried blowing it away with pressurized air. They've tried drying it up with piles of pulverized limestone. And they've scraped it away by repeatedly replacing the top layer of asphalt on some blob-infested highways.

At times, the government has declared victory, only to have the blob return bigger and badder than ever. And it's reproducing, somehow moving from one highway to the next throughout Venezuela.

The blob also is a killer: More than 1,800 motorists have died in the past five years on one 8-mile stretch of blob-covered highway that leads from Caracas to the city's international airport.

"Driving with La Mancha Negra is like driving in a grand prix. You got to be careful, or you'll die," said Antonio Perez, a Caracas cabdriver who frequently deals with the blob on the airport highway.

It is on this road five years ago that La Mancha Negra appeared. The government was patching up the 30-year-old concrete highway with asphalt when the first shiny blotches appeared. Few Venezuelans took notice.

At first it covered 50 yards. Then 100 yards. Then a mile. And now eight miles, though the blob contracts and expands depending on the weather. Rain and heat make the substance grow; cold and dryness make it shrink. The blob also seems to like it best inside tunnels, and it prefers the uphill lanes on grades rather than level roads.

In a nation where corruption is endemic, many Venezuelans think

someone made big money — and unexpectedly created the blob — by laying cheap asphalt that bleeds oil when the temperature rises.

That's where the judge comes in. He has been investigating charges of corruption since last year, but no one has been fingered. Not the Ministry of Transportation and Communications, which is responsible for taking care of the nation's highways. Not the Venezuelan national

oil company which provided the asphalt.

"There could be corruption, but who knows for sure? Everybody is giving a different explanation. It's a total mystery," said Ruth Capriles, Venezuela's foremost whistle-blower and author of the two-volume *Corruption Dictionary*, a compendium of the nation's worst cases of graft.

Ms. Capriles, like most Venezue-

LIGHT

Langdon Intellectual Gradient High-range Test

INTRODUCTION

This test is designed to measure attention in reasoning at very high levels of the adult population. The items on the test are quite difficult, as required for accurate discrimination among those with I.Q.'s above the 99.9th percentile, the principal aim of the test.

An earlier version of the *LIGHT*, the *Langdon Adult Intelligence Test (LAIT)*, was published in the April 1979 issue of *Omni* (as "The World's Hardest I.Q. Test") and has been taken by over 25,000 people. The test correlates well with standard I.Q. tests with a high loading on "power," as opposed to speed, and is used for selection of members by the Top One Percent, Triple Nine, Prometheus, Four Sigma, and Mega societies.

No special knowledge is assumed or required for solution of the test problems; it is assumed that the test-taker is familiar with common objects, weights and measures, the concept of probability, and elementary logical, arithmetic, and geometrical concepts.

GENERAL INSTRUCTIONS

This test is to be completed without the assistance of, or consultation with, any other person, through voice, written communication, or any other means. The use of reference materials and electronic or mechanical computation aids is expressly permitted.

For each item, the penalty for a wrong answer is one-fourth the credit for a right answer. You should take it as given that each item has one correct answer; items with more than one alternative marked will be counted wrong.

Circle your answers on the answer sheet provided or copy the answer sheet on the back cover of the test. The answer sheet also requests scores on previous I.Q. and aptitude tests taken and information on your membership in organizations which admit members on the basis of I.Q., for norming purposes only. This information and your score on the test will be held in the strictest confidence.

Return your answer sheet, with \$10 for scoring (unless your answer sheet is stamped PREPAID in red), to Polymath Systems, P.O. Box 795, Berkeley, CA 94701. Checks must be in U.S. dollars, drawn on a U.S. bank.

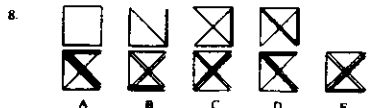
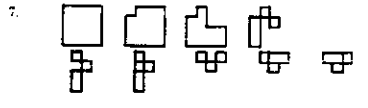
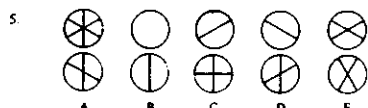
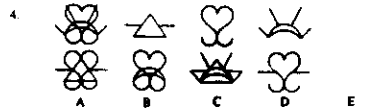
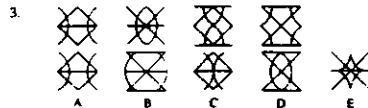
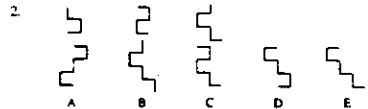
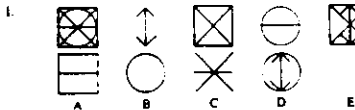
You will receive a computer-generated score report within six to eight weeks, reporting your I.Q., tested population percentile, and general population percentile, and a statistical report on the norming of the test.

Please do not write for clarification or explanation of the test items; to provide such information would violate the standard testing conditions essential to the uniform meaning of test scores. We cannot provide information on which items you missed, as this is a secure test.

PART I

FIGURE SERIES

Instructions: Each item in this section consists of a sequence of figures on one line, followed by five lettered figures on the line below. Choose the letter of the figure on the second line that continues the progression of the first line.



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PART II

MISCELLANEOUS SYMBOLIC PROBLEMS

11. One third of the members of a parliamentary body are elected every two years. The body has six committees. Each member of the body is a member of at least one committee, and no member is a member of more than two committees. No committee has more than eleven members. Each pair of committees has exactly two members in common. The chairman is a member of the Rules Committee and of no other committee. Each member of the Budget Committee is also a member of another committee. The last digit of the number of members of the parliamentary body is:

- A. 2 B. 3 C. 4 D. 6
E. it cannot be determined from the information given

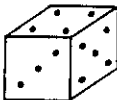
12. To begin playing a certain card game, an ordinary deck of playing cards is dealt out completely to four players. Each player looks at his cards and passes one card to the player on his left. A player does not look at the cards passed to him until he has passed a card. If a player has more than one king, he must pass a king; if he has only one king, he may not pass it. How many rounds of passing are necessary to insure that each player has one king?

- A. 3 B. 4 C. 5 D. 6 E. 7

13. An issue of the Civic Club newsletter lists one meeting in each of four consecutive months. Civic Club meetings are held on the third Tuesday of each month. The meeting on the 15th is the first one listed; the meeting on the 21st is the third one listed. The first month listed is:

- A. June B. July
C. November D. December
E. it cannot be determined from the given conditions.

14. A total of 49 spots are distributed over the faces of two cubical dice. How they are distributed is unknown to you. One die is rolled.



You view the die as shown; you cannot see the other three sides.

At this point, you can:

- roll the second die and bet even money that the total will be eight or better;
- roll both dice and bet even money that the total will be eight or better; or
- pass.

To maximize your expected return, you should:

- A. bet and roll the second die.
B. bet and roll both dice.
C. pass.
D. bet on rolling either the second die or both dice; each has the same expected payoff.
E. bet or pass; all options have the same expected payoff.

15. You are given one red token, one yellow token, one blue token, and one green token. Tokens may be converted according to the following rules:

- B + R + Y
2R + G + B
3Y + R + G
4G + B + Y

Note that each equation, in its entirety, represents a single conversion transaction.

Which of the following is not true?

- A. The maximum number of tokens in your possession after any conversion is six.
B. The minimum number of tokens in your possession after any conversion is three.
C. After all legal conversions, you are left with one red token, two yellow tokens, and three green tokens.
D. A total of thirteen conversions are possible.
E. A total of three conversions of red tokens are possible.

16. A certain country manufactures coins in eight integral denominations, from 1-piaster to 300-piasters. The ratios between adjacent denominations are all either 2, 2-1/2, or 3. To purchase a 69-piaster souvenir, a tourist gives the seller one coin and receives one coin in exchange.

Which of the following is true?

- A. There are both 5-piaster and 30-piaster coins.
B. There is a 5-piaster coin but no 30-piaster coin.
C. There is a 30-piaster coin but no 5-piaster coin.
D. There is neither a 5-piaster nor a 30-piaster coin.
E. None of the alternatives above can be positively established from the information given.

17. Each of the six numbers one through six on a certain display can be lit or unlit. A random combination of numbers is lit. If the total of all numbers lit is twelve, the number least likely to be lit is

- A. 1 B. 2 C. 3 D. 4 E. 5

18. A man plays a game of Russian roulette in the following way. He puts two bullets in a six-chamber cylinder and pulls the trigger twice. The cylinder is spun before the first shot, but it may or may not be spun after putting in the first bullet and after taking the first shot.

Which of the following situations produces the lowest probability of survival?

- A. Spinning the cylinder after loading the first bullet, and spinning again after the first shot.
B. Spinning the cylinder after loading the first bullet only.
C. Spinning the cylinder after firing the first shot only.
D. Not spinning the cylinder either after loading the first bullet or after the first shot.
E. The probability is the same for all cases.

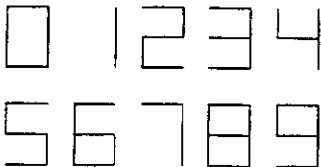
19. You are given:

- a 2-1/2 gallon container full of water;
- an empty 1 gallon container;
- a 1-1/2 pound weight;
- a 2-1/2 pound weight;
- a 4-1/2 pound weight;
- a 6-1/2 pound weight; and
- a 2-pan balance.

Each container weighs five pounds. A pint of water weighs one pound. One of the weights is slightly inaccurate—either lighter or heavier than the weight indicated above. Which weight is inaccurate and in which direction?

- A. can be determined in three weighings.
B. can be determined in four weighings.
C. can be determined as to which weight in two weighings, but which direction it is off cannot necessarily be determined.
D. can be determined as to which weight in three weighings, but which direction it is off cannot necessarily be determined.
E. cannot be determined from the given conditions.

20. Each digit of the display of a digital clock is made by lighting a specific combination of seven light segments, as follows:



(Note how the six, seven, and nine are constructed. Some digital displays use different combinations of segments to represent these digits.)

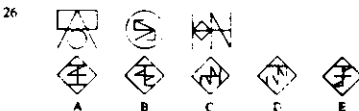
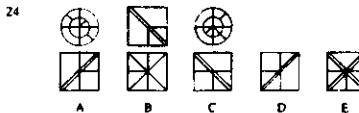
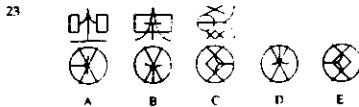
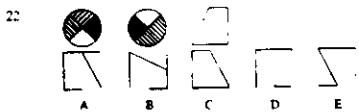
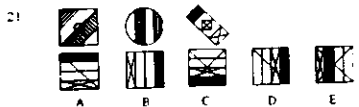
The clock displays hours and minutes, in the form HH:MM, and is operating properly except that up to five of the segments in the right-most digit of the display may be burned out.

The last digit of the maximum number of minutes which can elapse between a perfectly and instantaneously logical observer (who is aware of the facts above) beginning to examine the clock and the moment he is able to deduce what time it is.

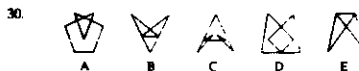
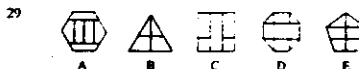
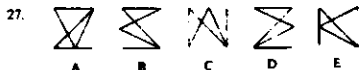
- A. 0 or 5 B. 1 or 6 C. 2 or 7
D. 3 or 8 E. 4 or 9

PART III
MISCELLANEOUS SPATIAL PROBLEMS

For problems 21-26, choose the letter of the figure on the second line that is related to the third figure on the first line in the same way that the second figure is related to the first.



For problems 27-30, choose the letter of the figure that does not belong with the other four.



If a worm gnaws a hole through the eight-cube solid shown above, starting with cube 1 and passing through each cube exactly once, without crossing any boundary where more than two cubes meet, which cube or cubes of those marked 2, 3, and 4 can it emerge from?

- A. only 2
B. 2 or 3
C. 2 or 4
D. 3 or 4
E. 2, 3 or 4



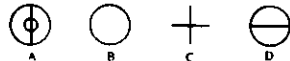
The large solid figure at the left above is taken apart into three pieces. Two of the pieces are shown at the right above. Which of the following is the third piece?



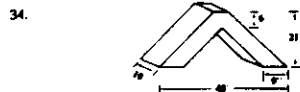
E. none of the above



Which of the following is PR?



E. none of the above



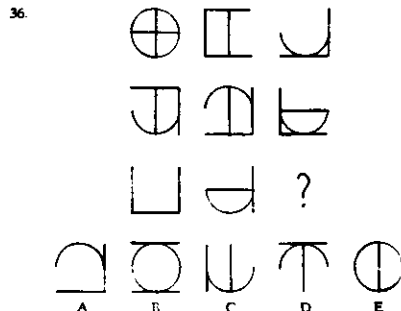
How high a tower can be built using seven blocks with the dimensions shown above without rotating any block more than ninety degrees from the orientation shown?

- A. under 67"
B. 67-71"
C. 72-76"
D. 77-81"
E. over 81"

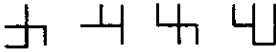


Assuming that two holes go all the way through the cube and the third only halfway through, what is the total number of faces of the body shown above?

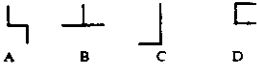
- A. 22
B. 23
C. 24
D. 25
E. 26



37.



Each of the four figures above was made by superimposing the same three figures, of the four figures below, possibly rotating or reflecting any one, or any combination, of them. Which of the four figures was not included?



E. It cannot be determined from the information provided.

38. If exactly two of the views below could be of each of four undecorated 3-dimensional objects, no two of which are mirror images of one another, which view could be of any of three of those objects? (Broken lines represent hidden edges.)



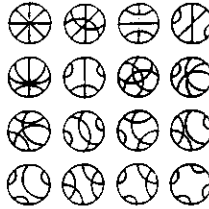
39.



What is the minimum total number of faces of the pieces produced by one plane cut through the figure shown?

- A. 18 B. 19 C. 20 D. 21 E. 22

40.



The missing pattern:

- A. belongs in the third row.
- B. is asymmetrical.
- C. contains the same elements as one of the patterns above, but in a different order.
- D. does not contain a straight line.
- E. satisfies none of the above conditions.

LIGHT

Langdon Intellectual Gradient High-range Test

Answer Sheet

Name _____ Age _____ Sex _____
 Address _____ Date _____
 _____ Memberships in High-I.Q. Societies: _____

Previous intelligence and aptitude test scores

Test	Score(s)	Date Taken
_____	_____	_____
_____	_____	_____
_____	_____	_____

Part I	Part II	Part III	
1. A B C D E	11. A B C D E	21. A B C D E	31. A B C D E
2. A B C D E	12. A B C D E	22. A B C D E	32. A B C D E
3. A B C D E	13. A B C D E	23. A B C D E	33. A B C D E
4. A B C D E	14. A B C D E	24. A B C D E	34. A B C D E
5. A B C D E	15. A B C D E	25. A B C D E	35. A B C D E
6. A B C D E	16. A B C D E	26. A B C D E	36. A B C D E
7. A B C D E	17. A B C D E	27. A B C D E	37. A B C D E
8. A B C D E	18. A B C D E	28. A B C D E	38. A B C D E
9. A B C D E	19. A B C D E	29. A B C D E	39. A B C D E
10. A B C D E	20. A B C D E	30. A B C D E	40. A B C D E

Mail, with \$10 for scoring, to: Polymath Systems, P.O. Box 795, Berkeley, CA 94701.

VERBAL ANALOGIES
BY DR. P. A. POMFRIT
22 MOAT HALL AVE., PEEL GREEN,
ECCLES, MANCHESTER,
M30 7LR,
ENGLAND

MARKING FEE: 5 U.S. DOLLARS (CASH ONLY) **SCORE:** RAW SCORE ONLY
TIME LIMIT: NONE. A SMALL PRIZE MAY BE GIVEN (DEPENDS ON RESPONSE)
FOR POSSIBLE PRIZE: 31st DECEMBER 1992

e.g. 2 : 10 :: BINARY : DENARY

1. KING ARTHUR : EXCALIBUR :: SIR LANCELOT : ?
2. FINLANDIA : SIBELIUS :: PARIS AND HELEN : ?
3. POLICEMEN : PEELERS :: BOW STREET RUNNERS : ?
4. 1 : 8 :: BOVATE : ?
5. THE CARD PLAYERS : CEZANNE :: VIEW OF DELFT : ?
6. STAG : ACTAEON :: OWL : ?
7. CIRCLE : COMPASS :: ELLIPSE : ?
8. STAMP : PHILATELIST :: TOILET PAPER : ?
9. P.M. : DEPUTY P.M. :: TAOISEACH : ?
10. FAT : STEATOPYGOUS :: SHAPELY : ?
11. LIBERATION FOR CONQUEST : PARANYM :: FLORENCE FOR FIRENZE : ?
12. MINIATURE TREES : BONSAI :: MINIATURE LANDSCAPE OF BONSAI : ?
13. DAISIES : BOOTS :: SKY : ?
14. RADAR : ACRONYM :: CABAL : ?
15. ROH : RSH :: ALCOHOL : ?
16. ELEPHANT : CAMEL :: HOWDAH : ?
17. 2621 : 2922 :: HAVEN : ?
18. CALIFORNIA : EUREKA :: MAINE : ?
19. FILMS : OSCAR :: RADIO/TV COMMERCIALS : ?
20. ANIMAL : BIRD :: PYGAL : ?
21. BUSHMASTER : SURUCUCU :: ANACONDA : ?
22. LETTER : SIGNATURE :: SERIF : ?
23. SMALL : VARIOLA :: CHICKEN : ?
24. EVIL : FAITH :: PONOEROLOGY : ?
25. SAW : SERRI :: CUSHION : ?
26. 8 : 14 :: OCTAD : ?
27. BIRDS : DEER :: SCARECROW : ?
28. BASE : LASPEYRE :: CURRENT : ?
29. LOOSE ROBE : KIMONO :: SMALL ORNAMENT/FIGURINE : ?
30. I AM/IM : PRODELISION :: A NEWT/AN EWT : ?
31. JACK NICKLAUS : BEAR :: HOLING OF A BALL DIRECT FROM BUNKER : ?
32. LYING ON OATH : PERJURY :: WILFUL CONTEMPT OF COURT : ?
33. GENERAL : MASSAGE :: LONGITUDINAL RUBBING/LATERAL SQUEEZING : ?
34. SON MOTHER/FATHER : OEDIPUS :: STEP-PARENTS/STEP-CHILDREN : ?
35. MADAME BOVARY : FLAUBERT :: PETER SIMPSON : ?
36. GIANTS : BROBDINGNAG :: SORCERERS/MAGICIANS : ?
37. ULTIMATE : OXYTONE :: ANTEPENULTIMATE : ?
38. CYLINDER : BOOK :: VASCULUM : ?
39. NEWCASTLE : LIVERPOOL :: GEORDIE : ?

40. ENGLISH : ARABIC :: APOSTROPHE : ?
41. FIRMAMENT : INDRA :: FORESIGHT : ?
42. ROOFED : ROOFLESS :: CLEITHRAL : ?
43. TECHNETIUM : PROMETHIUM :: MASURIUM : ?
44. MINERALS : MOHS :: METALS/ALLOYS : ?
45. LEADER : DON/GODFATHER :: CODE OF SILENCE : ?
46. CLOCK WISE MODEL OF SOLAR SYSTEM : ORRERY :: MAGNETIC MODEL OF EARTH : ?
47. THE LAND OF THE RISING SUN : JAPAN :: THE COCKPIT OF EUROPE : ?
48. SIMPLICITY AND GENEROSITY : PICKWICKIAN :: UNCTUOUSLY HYPOCRITICAL : ?
49. TEAM ASSISTANT MATADOR : CUADRILLA :: PROTECTION FENCE IN BULLRING : ?
50. BASE OF CONE : FRUSTUM :: PARALLELOGRAM WITH ONE QUADRANT REMOVED : ?

TWO LETTERS FROM GERALDINE BRADY

Dear Rick,

A belated thanks for sending the fax with the info on the schools.

I've heard from Ron Hoeflin, but from no one else from the Mega Society thus far. I've decided to scrap my 13-year-old Cantor paper and to concentrate instead on trying to salvage my thesis/work on Peirce's logic. I'm also still shaking the trees looking for help. If you know anyone who's good at writing Ph.D. theses, or who's just a good writer, please let me know.

I hope your school situation has improved. Thanks again.

Geraldine Brady

Dear Rick,

I received the latest issues of *Noesis* today and was delighted to read of your degree news. I hope that your B.S. will be in math. Write sometime and tell me the details.

I am following a suggestion from Ron Hoeflin and am trying to expand a paper I wrote about C. S. Peirce's logic (one of my previously rejected theses) into a Ph.D. thesis. It is pure drudgery. It is my impression right now that school has killed all my interests and sapped me of my creative and imaginative talents, but somehow left my intellect intact. Do you feel the same? We should study this. The training that the "system" provides has been many times examined, and much maligned, but I don't know that anyone has really identified the essence of the problem. I don't know that I understand it, but I *do* know that most of the time I feel like I have spent years of my life working on someone else's hobby (It's not even important enough to be called somebody else's interest.). I'd be very surprised if people who have genuine intellectual accomplishments to their credit have squandered their time like this.

Anyhow, all the best!

Cordially,

Gerry

[Editor's comments: The correspondence U. from which I expect to graduate this semester or the next grants 30 semester units of credit in a particular field for scoring above the 30th percentile on the GRE Subject Test in that field. Since I have no existence outside of taking tests, I plan on taking 10 Subject Tests and graduating with 8 majors and over 350 credits. All this, naturally, will be worthless in terms of

finding meaningful work. The GRE's in fields such as sociology or education are very easy because test takers are competing with sosh or ed majors, who tend to be less bright and studious than students in the hard sciences. Correspondingly, the math & physics GRE's are nasty. Of course, the whole procedure feels like an extended (funny-sad, not funny-ha-ha) joke.

As does higher education as you and I have experienced it. I just took the sosh GRE and feel good about my performance, so I'm entitled to make sociological pronouncements:

The larger a population, the more a culture must squander the lives of its members. Otherwise, too many people would accomplish stuff, and cultural stability would be lost (as would the S. S. Minnow, if not for the courage of her fearless crew). Heat sinks are designed to radiate excess heat. U.S. colleges are time sinks, which function to waste about 10% of a person's adult life. They also function as places for physically (and often mentally) inferior but economically elite males to hook up with females. Young women might pair up with blue collar males if college didn't function as an agent of economic segregation. College is about lots of things, but learning is not its central cultural function. My main pleasure in college is in being a disruptive presence, but even that is usually too much effort.]

A LETTER FROM CHRIS HARDING

Dear Rick Rosner:

In view of comments about those with journal subscriber status only it seems to me that those who have simply received the journal and who show a history of zero input to it are perhaps no more than intellectual tourists or culture vultures or even voyeurs in some cases whose presence is hardly desirable and even off-putting to extraordinary minds and whom we can do without. I don't like the idea of providing a peep show for these people as if this were something expected of us as some sort of atonement for our crime of being clever! I would hope we might leave the idiocy of the lower order behind us for good and become ourselves for a change. I know a few people who while they could not qualify for either the old Mega Society or the current one do have extraordinary ideas, speculations or full-blown theories--they are the life blood of any truly intellectual organization and are people the Mega Society ought properly to court. Thus I am proposing that subscriber status be open to only the creative and productive minds of the greater community. If anyone wants to subscribe who can't pass whatever tests are deemed the current entry ticket then let them forward material that demonstrates extraordinary creativity at least. I am proposing that we define creativity in terms of mind or intellect not emotion and that we state that we only seek persons who are locked out from the greater scientific community by virtue of their superior creative minds. I am certain the fusion of the two types would be wholly beneficial to us all. I don't like the contamination of the social animals enumerated above. There are places to socialize for those who want to do so. Those who claim failure of outlet in this regard are snobs and empty heads.

On the matter of the Wone-Harding approach to artificial intelligence which has been reported in *Noesis* and commented on more recently by one of our members (or subscribers?) I can report that the code has been written to demonstrate a workable model but that this has so far been very limited in terms of effective output. At the time of our first run attempts Peter promptly pointed out to me that the technology would eventually catch up with it. Basically speaking, as currently conceived no computer in the world would have any chance of mimicking fully the functions of the human brain in full flight! Since then, I have been blessed with a likely significant insight--it is as though what we were attempting to do was devise a system "to solve everything in the visible universe" so to speak to get at the simplest of selective things. While no code has so far been written for it, the answer would appear further to lie in the implementation of Shannon negentropy--the so-called needle in a haystack maths.

Sincerely,

Chris Harding

[Editor's comments: The pro-subscriber argument that comes most readily to mind is that I can't afford to edit *Noesis* without the money from your subscriptions. One reason Ron Hoeflin had to abandon the editorship was that there weren't enough people paying dues to make it economically worthwhile.

I'm flattered by subscriber interest and surprised at those who re-up. I've completely internalized societal contamination; the attention of some subscribers won't soil me more than I've soiled myself. Many subscribers are borderline cases who will eventually qualify or who could qualify if they didn't have better things to do. Finally, subscribers aren't beating down my mailbox. I feel good that 50-or-so people receive *Noesis*; I'd feel better if there were more interested subscribers and members in order to have a self-sustaining enterprise. In *Marooned in Real Time*, SF author Vernor Vinge says that a minimum of 200 humans is needed to maintain a breeding population with sufficient genetic diversity. Some similar number might be necessary to guarantee the continuity of an organization.

Which reminds me--*A Fire Upon the Deep*, also by Vinge, is the best blockbuster-type SF novel I've read in a couple years. It has a huge time scale, suspension of disbelief bizarro aliens, and an interesting cosmology. I don't read much SF anymore 'cause it usually disappoints, and I didn't much like Vinge's *Marooned*, but *A Fire Upon the Deep* reflects a lot of focused imagination by the author.]

A LETTER FROM DONALD SCOTT

Dear Rick,

Thanks for your response to the questions I put before you. I found your response helpful!

However, as usual I have a few questions. I will not try to take up a lot of your time. The questions are as follows:

In issue no. 70 you said you think that appropriate training could make almost everyone much more intelligent. What do you consider appropriate training and could I train myself to become much more intelligent?

Also, I went to a library and I found an old copy of the magazine *Omni*. In it they had a copy of the *Mega Test*. As soon as I looked at the test, I instantly knew the answers for a few of the questions.

The questions pertaining to the test are as follows: On the same page of the *Mega Test*, Ronald K. Hoeflin said, "The average person could only get one of the problems right." Since I'm almost certain that all of the above answers are correct, then am I above average and what does that make my IQ.?

I never thought of myself as having above average intelligence. As far as the rest of the test, I probably could solve more of the problems, but I'm much more interested in becoming far more intelligent.

I really don't like taking up so much of your time, but I feel that I could get the answers I need by asking you.

Sincerely,

Donald Scott

[Editor's comments: All five of your *Mega Test* answers are correct. Thanks for thinking I'm a source of information. Obsessive reading is the most sure-fire way to at least not get stupider. Various authors

including Stephen King and Gore Vidal talk about reading thousands of books. I had one teacher who set a reading target of ten books a month, and I shoot for 150 books a year.

You could try Ron Hoeflin's Mega Test, or one of the other tests he's created. However, to do a thorough job, you should set aside a least 30 hours. I spent at least 90 hours on it. Other tests will give you an IQ score in only two or three hours. Being assigned an IQ score isn't necessarily helpful in becoming more intelligent. I know very little of your background, what educational resources you have access to, and what your specific goals are.]

A LETTER FROM PETER SCHMIES

Dear Rick Rosner-

Enclosed are two problems that you may use for the "Short Form Test."

My answers to the three analogies in Noesis #72:

Sincerely,

Peter Schmies

[Editor's comment: You got 11 and 13 right. Your guess on number 12, thighs, rhymes with the right answer. We'll run the answers in the next mailing.]

16. A goat is tied to a post on the circumference of a circular meadow with a diameter of 100 meters. Determine the goat's "radius of action" when the pasture ground within its reach is exactly one half of the circle's area.

17. In what order are these signs arranged?

E I S H S

A LETTER FROM BOB HANNON PLUS HIS LETTER TO CHRIS LANGAN FOLLOWED BY LANGAN'S REPLY

ROBERT J. HANNON 4473 Staghorn Lane Sarasota FL 34238-5626
8 Aug 92

Rick Rosner, Editor
Noesis
5139 Balboa Blvd
Encino CA 91316-3430

Dear Rick,

Enclosed is a copy of my letter to Chris Langan regarding his article in #71. You may publish it if you want.

Also enclosed is a copy of VELOCITY IN SPECIAL RELATIVITY, which you may publish if you want. If I am correct, the conventional Velocity Transformation Equation is invalid.

I do not take unconventional positions just to be contrary. I devote a lot of time to the detailed and critical study of the fundamentals of science, and to my surprise, sometimes find what appear to be subtle but invalidating errors in the mathematics or logic used to derive widely-accepted relationships. I am not necessarily correct in my findings, but so far, no one has come forth with demonstrations that my logic is incorrect. I do get letters that simply tell me I am wrong, citing the conventional wisdom (with which I am more familiar than most), but offering no elucidating argument. I write my articles to share my findings with others and to stimulate knowledgeable and scholarly interchanges and rational argument.

I have also enclosed THE SPECIAL RELATIVISTIC TRANSFORMATION OF MASS, which examines the derivation of the conventional equation which purports that mass "increases" with relative velocity. If my analysis is correct, that equation is not valid. You may publish this article if you care to; it was one of my several submissions to the First Annual ISPE Symposium.

In reply to LeRoy Kottke's letter to me:

LeRoy has made an assumption that is not employed in Special Relativity: mass is a function of time. He is, of course, free to make any assumption he wants, provided it is not inconsistent with observation. It is important to note, however, that $F = m dv/dt$ is simply a restatement of $F = ma$, because $a = dv/dt$. To postulate that $F = ma = d(mv)/dt$ does not seem correct, (assuming m is a function of time). Instead, this step (if it is taken at all) should, I think, be $dF/dt = (dm/dt)(dv/dt)$. I am not sure that it should be necessary to add a basic new assumption to Special Relativity in order to derive an equation which has purportedly been derived by others without that assumption.

My researches into the specific origin of $E = mc^2$ (not to be confused with its series expansion: $E = Mc^2 + Mcv^2/2 + \dots$) have so far drawn a blank. It appears that this revolutionary equation

may have been entirely heuristic. If anyone has Einstein's (or anyone else's) derivation (in English), I'd appreciate a copy.

Best regards,



ROBERT J. HANNON 4473 Staghorn Lane Sarasota FL 34238-5626
7 Aug 92

Chris Langan
Box 131
Spoken NY 11972

Dear Chris, RE: NOESIS 71

Surely you jest????

A basic belief: the more complex a theory about any aspect of nature, the less likely it is to be valid.

You do little to gain support of your views by repeated inferences that those who do not agree with you are intellectually limited or inferior. Surely superior minds can and should convince the merely intelligent; denigration degrades its perpetrator.

It may be that your CTMU contains some truly profound insights, but your writing style does virtually nothing to reveal them. Sentences (paragraphs?) composed entirely of jargon convey little to those unfamiliar with obscure terminology.

In no sense "trapped in (a) quandary". I feel no need "to enter an infinitely larger and more wonderful universe than the one I now inhabit". I prefer the real universe.

On what premise do you presume I am in a "quandary"? I am in no way perplexed or uncertain as to the nature of reality or the realities of nature, nor have I ever implied such a condition.

There is no such thing as "quantum indeterminacy" or any other kind of "uncertainty" or "indeterminacy" in nature at any level or at any time. The examples you cite are all typical misinterpretations of the results of the highly-complex causality that inevitably produces them. Such misinterpretations must arise from the application of the generally-accepted fallacy of the Uncertainty Principle and its derivatives as rationalizations of natural phenomena. When the Uncertainty Principle became dogma, circa 1927, it effectively terminated the acceptability of scientific efforts to truly understand nature, by imposing the belief that nature can not be understood.

There are only two probabilities associated with any "event": 1 or 0. It happens or it doesn't. Nothing we do can have any effect. All events are certainest; even the "probabilities" I have called 1 and 0 appear to exist only because we have not yet learned how to discern, analyze, and understand the chain of cause and effect which will inescapably produce an event (probability 1) or fail to produce an event (probability 0).

The entire future, every event or interaction or change of state (or lack thereof) in nature was unalterably determined at the instant time began. The unbreakable chain of causality encompasses every situation at every time and in every place in the entirety of existence. No alternative outcome is ever

possible. "Free will" and "choice" do not exist. Philosophies predicated on those concepts are but diverting mind-games which have no basis in reality, but which themselves are inevitable products of all events that preceded them. We and the rest of nature are automata. Most of us believe in free will, choice, and decision-making because our conscious minds are constructed to ignore that these things do not exist. I suspect that if we accepted our true status at the conscious level, life would be worth living only to those fascinated by observing the unfolding of the inevitable future.

Our acceptance or rejection of our status as automata, our decisions to strive or to drift, to survive or succumb, are in themselves inevitable and inescapable.

If you have a paper on CTMU that is a comprehensive exposition of its concepts, essentially devoid of jargon, I would appreciate a copy. I may learn something.

You and some others I have read in NOESIS and IN-BENIUS seem to think that having had a tough childhood conferred some additional intellectual insight or ability. If so, why? Similarly, you seem to think that existing on the edge of poverty provides you a greater intellectual freedom. If so, why?

Best regards,



Dear Bob: I'm going to reply to your points in order and with minimal vocabulary.

0. Of course I jest; what's life without laughter? If not, I'd be totally out of place among buddies like the irrepressible Jojo Einstein! But seriously, folks...

1. The complexity (information content) of a theory must equal that of the phenomena it describes. As reality is complex, so for any theory thereof. The same criterion applies to language. That's why the reduction of specialized "jargon" to basic vocabulary generally leads to a manyfold increase in length if detail is not to be sacrificed. Furthermore, the choice of appropriate terminology is of primary importance and should not be postponed. It saves confusion and mental labor, and delaying its introduction under conditions of limited space makes no sense. Theories and languages compress information; the former by axioms, theorems, and rules of inference, and the latter by specialized syntax and terminology (see *Noesis* 46, p. 2-3; *Scientific American*, Sept. 92, p. 88).

I also note at this point your use of the term "likely", referring to a range $\langle p \rangle$ of probabilities $.5 < \langle p \rangle < 1$. Using nonzero subunitary probabilities to refer to possible homomorphisms between reality and theories thereof amounts to using such probabilities to measure the applicability of physics to observation (where observations are *real* and physics is a *theory* designed to explain observations). This implies that *physical reality* contains the basis for nonzero subunitary probabilities. (Don't let this confuse you; analyse it until you understand how your own hidden assumptions imply my case.)

2. I'm sorry if you *inferred* that I lack respect for the intellects of others. I meant to *imply* no disrespect. But after several years of circular argumentation, I've determined conclusively that some members of this group have more confidence in their illogical opinions than knowledge of logic. In a society that claims to consist exclusively of geniuses, that just doesn't wash.

Whenever any member of Mega has offered or even implied a substantive criticism of the CTMU, he has been set straight immediately. Accordingly, it has become fashionable to slight the CTMU without reference to its content (e.g., see *Noesis* 71 and 72). After what I've been through since 1988, any impartial observer would agree that I'm justified in saying *whatever I please* about the intellects of those who dispute it without saying why (e.g. *Noesis* 72, page 3). Yet, I continue to honor them by addressing their objections and omissions, no matter how inspecific or nonsensical.

When you imply that superior minds can always reach each other by means of rational discourse, you are idealizing. It has now been empirically established that rationality is unrecognizable and irrelevant to Mega Society political dynamics. The reasons are clear enough. When some member of a group is intellectually dominant, having some kind of ability or information that others lack, he threatens to become *politically* dominant. But this may not please those currently in power. Among small children, an instinctive avoidant strategy is to stifle the dominant child by ignoring him or pretending not to hear or understand him; to "make him go away"

by "not being his friend". This is the strategy being used against me by a couple of our higher-profile subscribers, and it's pretty silly. Your indignation, if righteous, should be redirected.

If you knew the history of the present situation, you would know that the CTMU and I have been repeatedly "denigrated" even as I did my best to soothe the egos of critics. My contributions have met with responses ranging from flawed logic to inane psychobabble ("paranoid"; "apocalyptic"). The situation was and is ridiculously lopsided. But morally, it is in my favor.

3. At no point do I resort to undefined "jargon" (purposeful neologisms) unless the definition is either obvious or implied in the neighborhood of the term. I apologize for excluding glossaries; I'm painfully aware that *Noesis* contains little room for them. I usually say as much as possible as tersely as possible. Any effort to understand the CTMU is ultimately its own reward.

4. I'm relieved to hear that you prefer the "real" universe. For a minute there, you had me wondering. The CTMU, being a very powerful theory of reality, should find in you an avid supporter.

5. I infer that you're in a "quandary" because you cannot be "pro-choice" on the abortion issue (*Noesis* 69, p. 9) unless you believe in choice. You do not (p. 10, same issue). Since inconsistent universes are doomed to self-annihilation, you remain well-advised to leave yours and enter mine. I very seldom "presume" anything when I can reason to my conclusions instead.

You're not alone. Everybody in this group is caught in similar quandaries generated by conventional inconsistent worldviews. That is why I remain obligated to publically correct those who cling obstinately to fallacies while scorning a superior viewpoint (the CTMU). Their "humiliations" are not my responsibility, but theirs. I *do* sympathize with them. But until I see a change, my duty is clear: to show everyone that any attempt to ignore or argue with the CTMU is to invite strictly one-sided rectification. Until higher duty calls, I'll see to this one and seek applause later.

6. You say that there is no uncertainty in nature. But man, which you define as an *automaton* and thus as a mere part of physical nature - which you also define as an automaton - has a very great deal of uncertainty regarding himself and the rest of nature. The existence of man thus implies the existence of uncertainty in nature, and your thesis contradicts itself.

Because you are a man, and thus by your nature uncertain, you cannot factor uncertainty out of your theories of nature. Regardless of what science can in principle discover, your uncertainty regarding specific facts is unavoidable. This is because your brain is but a tiny part of reality, and cannot presume to have the same computational capacity as reality at large. You don't see spacetime as a completed whole; you see tiny parts of spatiotemporal cross-sections and are flatly *ignorant* about what you'll see in the future. All you can do is extrapolate from your own mental characteristics given past observations, or reason inductively about spatiotemporal *sets* from spatial and temporal *elements* thereof. But no law of nature requires that sets be wholly determined by

partial subsets of lesser apparent complexity. As the product of minds prey to uncertainty, the science of man is uncertain. This uncertainty inevitably manifests itself at the quantum level (note that I've just given a computative and set-theoretic justification of uncertainty independent of Heisenberg's).

Saying that human science can master reality amounts to saying that reality is reducible to simulation within the material brains of humans. This would effectively deny all distinctions external to physical human brains and is regressively *solipsistic* (use your dictionary if this seems like "jargon"). Furthermore, this thesis directly violates *Godel's theorems*. There's just no way to support it. Accordingly, any valid theory of reality must contain room for the negation of this thesis. The CTMU fills the breach.

7. The resolution of nonzero subunity probabilities as 1 or 0 is a phenomenon known in quantum theory as *collapse*. Collapse occurs at definite points in time. *Considered as measures of subjective ignorance, nonzero subunity probabilities exist both before and after collapse, depending on the observer's access to the 0-or-1 information. But even under the best of circumstances, this information is *always unverifiable* prior to collapse (because the energy required to measure a "particle" is sufficient to disrupt its motion). So "subjective" probabilities are the only ones that exist *for your purposes* at the pre-collapse stage.

The thesis that *physical* "hidden variables" exist which determine quantum wavefunction collapse has been experimentally invalidated in independent confirmations of EPR-Bell "quantum-nonlocality" effects. If total quantum determinacy exists, the determinants can't exist physically (where physical existence entails obedience to the locality principle and decidability by localistic techniques). What qualifies as "physical" depends on what physicists can see.

If you want to have hidden determinants - which you apparently do - you have only one recourse: to stratify determinacy with respect to reality. Thus, the CTMU allows for hidden factors by generalizing the *Cosmological Containment Principle* from "*The physical universe contains all that is physical and nothing that is not*" to "*Reality contains all that is real and nothing that is not*", where *reality* is a metaphysical generalization of physics. Since hidden determinants are inductively associated with portions of physical reality including human beings, they are indistinguishable from what we call *volition*. Destination: free will, CTMU-style.

We might call the directed nature of the transition from $\langle 0 \dots 1 \rangle$ to $\langle 0 \vee 1 \rangle$ probability *quantum negentropy*. In quantum mechanics, operators corresponding to complementary observables do not commute, implying an *uncertainty relation* among observables. Quantum wave-function collapse resolves this uncertainty by providing the information *ex post facto*, through observation of some past event. This information can't be used to predict future quantum events; quanta emitted due to the past event are again indeterminate.

Quantum negentropy is the collapse-mediated juxtaposition of past *certainty* and future *uncertainty*; *present* collapse converts our former uncertainty about the *future* into certainty about the *past* (just as acquisition by a Turing machine converts the *future* in-

computability of external automata to hard data about their *past* behavior). This implies a subjective "arrow of time". Reasoning in reverse, quantum negentropy implies the matrix noncommutativity from which Heisenberg inferred the uncertainty relation, and means only that commutative algebra is insufficiently complex to model the algebraic structure of time and reality (the whole point of *Noesis* 71 was to define an algebraic model of reality that is better and more comprehensive than the simpler commutative and noncommutative algebras defined within it).

Heisenberg uncertainty is just the physical analogue of a very general logical relationship found in everything from statistics to information and computation theory. Whether or not Heisenberg derived it "by accident", it stands up to logical scrutiny. If you want to see what a symbolic derivation of uncertainty might look like, try Godel's papers on undecidability; *what can't be proven* is just another perspective on *what can't be measured*.

8. When you speak of the total determinacy of the universe "from the moment that time began", you obligate yourself to furnish definitions of *determinacy* and *time*. Like every thinker who has tried to do this, you will be forced to invoke concepts like *causality* and *induction*. Once you do that, the CTMU establishes that time is not merely a line perpendicular to space; it has a complex algebraic structure (reread *Noesis* 71). This structure promotes the definition of higher orders of determinacy. As a part of reality with certain properties, your mentation fits into this structure in a way conducive to some degree of self-determination. Reread footnote 2 in my paper; it's a marvel of clarity.

9. When you state that "we and the rest of nature are automata", you are embracing the CTMU. Remember what *CTMU* stands for: the Computation Theoretic Model of the Universe. The CTMU is a model of reality designed to accommodate mechanistic, organic, cognitive, formal, linguistic, contextual, purposeful, and all other interpretations of reality. If you don't have copies of *Noesis* 44-49, order them from the editorial staff; I'm out of them.

10. My admission of a "tough childhood" was prompted by Jane Clifton's blanket pronouncement that members of IQ societies are "culturally advantaged underachievers" (*Noesis* 67, p. 10). A tough childhood is a major *disadvantage* which may, by force of will, be turned to *advantage*. I.e., overcoming adversity builds character, and character is indispensable in the search for intellectual insight (especially of the profoundest variety).

There is nothing particularly noble about poverty for poverty's sake. But consider this: you state that people are "automata". Then their mental productions are *computed*. In computation theory, the *scheduling* of computations is known to be critical; priorities must be identified and implemented in the proper order to achieve computational efficiency in most cases.

The level of competition for money is high; when you chase it, it becomes your top priority. When you work for or under another for pay, accepting *his* priorities becomes your top priority. And when you're functioning in an academic or scholastic capacity, your failure to adopt conventional priorities can result in your being

"frozen out" of the system, deprived of both grant money and the credibility necessary to get alternative funding. So money is usually obtained only by yielding control of one's scheduling function to money itself, or to those who have it.

Thus, maintaining control of your scheduling function for the benefit of your own intellectual projects - what you call "intellectual freedom" - makes it unlikely that you will accumulate large amounts of money. This implies a correlation between poverty and intellectual freedom, at least for those not in the inheritance business.

But familiarity with poverty is just as important for other reasons. It breeds contempt for blind materialism, giving you the strength to swim against the vortex of waste and overconsumption threatening our future. And it enhances compassion for that part of humankind living in squalor and deprivation, encouraging you in the search for and implementation of solutions. History shows that when the "haves" ignore the "have-nots", a turnabout is inevitable... particularly when the have-nots are in the vast majority. Since a violent turnabout could at this point spell the end of civilization, and since you can't solve a problem without understanding it, a first-hand knowledge of poverty can be a beneficial thing, provided it doesn't interfere with your just purposes.

By global standards, none of us is poverty-stricken. But by modern first-world standards, I grew up poor and have pretty much stayed that way. I'd like to acquire the means to spend all of my time solving problems of great depth, scope, and importance. But, being rational, I also want *others* - both of the present and future - to share the wealth of our species, including the ecological and biological diversity of this planet. Conspicuous concentration and consumption of resources without higher purpose is inconsistent with this end, and should not be encouraged by intelligent and conscientious people.

Personal wealth does not necessarily imply a lack of compassion or an unrealistic worldview. But given the realities of human nature, it certainly promotes it. The evidence is all around you. I don't require that you shed all your worldly possessions and wander the countryside in sackcloth. But I do require that you reject smug materialism in the face of worldwide economic disaster. As an economic strategy, it entails a huge collective risk and is therefore irrational. A mathematical proof can be constructed using the theory of *metagames* (see *Noesis* 45).

The level of your criticism implies that you believe the CTMU to be no more substantial than any other theory involving "subjectivistic" interpretations of probability, quantum theory, and so on. This would be an error. The CTMU is vastly more sophisticated than anything with which you could previously have been familiar (if the comment reported on the bottom of page 2, *Noesis* 72 was made with knowledge of the CTMU, it proves that yet other members can't distinguish sophisticated from unsophisticated theories). Previous descriptions of the CTMU are nothing if not concise (read the synopsis and footnotes of the *Noesis* 71 paper). It has already been extensively applied in *Noesis*. While some members still claim to disagree with the applications, they are flatly unable to say *why*

with any confidence that they will not be instantly corrected. Due to their recalcitrance, I am forced to withhold other applications whose appearance in *Noesis* would have been highly advantageous to the Society and the readership. While this situation may change, I'm through holding my breath.

Because the CTMU is based on human reasoning itself, it cannot be successfully reasoned against by humans; it defines the exact relationship between subjective and objective reality, and thus between the structure of the human mind and the structure of the outward universe. If you were to argue chronically with yourself to the effect of annihilating your own capacity for reason, you'd be no less rational than one who compulsively resists the CTMU.

When you write of "highly complex causality" and "the instant time began", you are squarely in CTMU territory. When you state that "we and the rest of nature are automata", you equate the theories of psychology, nature, and automata, and thereby embrace the only model that can do this consistently (the CTMU). Your own assumptions imply the model. You must either accept the CTMU, or abandon your assumptions and replace them with *wrong* ones.

Re your views on Special Relativity: S.R. is based on the idea of the universe as a homogeneous isotropic sphere without center or boundary. It thus assumes that the algebraic structure of the universe has a *subjectively distributed identity*. For there to be an "absolute velocity" (or absolute space, time or mass), the physical universe would need to have a "preferred frame" akin to a "center of mass (or inertia)". Whether it does or not, the covariance of physical laws - which makes it impossible to tell locally whether any frame is or is not preferred in this way - means that in effect, *no* frame is preferred. So the identity of the Lorentz transformation group is subjectively distributed, and space, time and mass have only relative meaning (space, time and mass are thus treated as *subjectively-relativized information*, a situation generalized in *Noesis* 71 as the *empyrean*). You call some special relativistic measurements "illusory". But for something to be "illusory", it must either be irrelevant to all real contexts, or there must be some realizable context in which it can be proven false. S.R. rules out any such context.

Although you sometimes show insight to the numerical aspects of S.R., you must try to remember that all successful theories are based on general principles developed through sound logic. The logic always precedes the quantitative implications. This applies to both S.R. and the CTMU. It's been suggested that I provide the members with equations to toy with instead of asking them to follow the underlying logic. This would be the conceptual equivalent of giving an infant a computer instead of a pacifier, or filling the pilot's seat of an airborne plane with someone who has persistently scorned flying lessons. So read this reply carefully; I won't respond further if it looks like you didn't.

Finally, let me encourage you in what seems to be an avid search for truth. Someone with your strong ability to question prevailing notions has a head start in the search for knowledge. If you can succeed in mastering the logic of your theses, you may one day emerge as a thinker of the first rank. Chris Langan