# Noesis

## The Journal of the Mega Society
## Number 82
## June 1993

Chris Cole calls me periodically to nudge me into assembling these issues. I tell him they're almost done, which is almost true, and he tells me to hurry up and to include an editorial with "some whiny stuff" about why *Noesis* is late again.

As, you know, the primary reason is that I'm immature, unreliable, etc. However, here are a couple of lame excuses--

We're trying to sell our condo and buy a house. (The California real estate market keeps dropping and has finally reached our level.) Every time a potential buyer might come see our condo, I have to pick up my carefully laid out nest of papers and make the place look uninhabited.

Chris Cole thought I should be connected to the e-net. This meant days and scores of miles of driving around on a scavenger hunt for compatible hardware. Chris thinks it's easy to construct a functioning system, but he lives in Orange County, where people use and understand computers. In LA County, people use computers and fax machines and cellular phones, but they don't understand them. They pay people to make them work, then use them to make dinner reservations.

Tomorrow I take my last GRE before graduating. Since I started the GRE thing a year ago, I've taken 59 real and practice GRE's, 26 in the last 10 weeks. For those who are curious, here's the model I used for GRE preparation:
GENERAL TEST-TAKING BACKGROUND is worth a maximum of six points. Have you wasted your life taking standardized tests? Have you read a bunch of books and articles on them? Have you taught other people how to attack them?
RECENT GRE-TAKING EXPERIENCE is worth a max of five points--one point for having sat for one real GRE in the last few years, two points for having sat for three, three points for six, four points for nine, five points for thirteen.
PRACTICE TAKING GRE'S is worth a max of seven points--one point for having taken two at-home GRE's, two points for five, three points for nine, four points for fifteen, five points for 23, six points for 33, and seven points for 45 practice tests.

The obsessed GRE taker may accumulate up to 18 preparation points. Multiply the number of prep points by 1.5 to arrive at your percent advantage over the person with zero prep points. This percent advantage represents the percent reduction in the gap between the maximum possible GRE raw score and the raw score you'd get with zero prep points. For example, say two people with equal knowledge of the subject take a GRE with a maximum possible raw score of 200 points, and the person with zero prep points gets a raw score of 100. The person with 12 prep points will get a score of around 118. This can mean the difference between scoring in the 56th and the 80th percentile.

Test-taking preparation improves performance in four areas not directly related to the subject matter being tested (and increases your knowledge of the subject matter). These areas are: confidence, time management, guessing productively on questions you otherwise wouldn't be able to answer, and pinning down answers to questions about which you have incomplete knowledge.

A question about tests for Ron Hoeflin--have you calculated a correlation coefficient for the Titan vs. the Mega? I did some quick sloppy calculations & came up with an r of about .88. Is that reasonable?

## LETTER FROM RICHARD W. MAY

Dear Rick,

It may not be exceedingly clever of us to attempt to select individuals at a one-per-million criterion (the membership of the Mega Society) and then confuse this set of individuals with another set that is in principle (not in fact) random by the same criterion (the subscribers), i.e., a minute subset of the population able to pay the $10 subscriber fee.

Separate lists should be compiled and at least available to the membership, if not published or the admissions criterion should simply be changed to that of a society of individuals occasionally having $10 in discretionary funds. I am not in favor of the latter alternative, notwithstanding the immense advantages in both statistical confidence level and political correctness.

Richard

[Editor's comments: Here's what I'll do, if it meets with everyone's approval--
A. List people we know to be members and the name of the test by which they qualified, if we know it. If we don't, we'll list whatever information we do have.
B. List pertinent credentials of non-qualifying subscribers who authorize me to do so. For instance, a subscriber may have scored a 39 on the Mega (or 1540 on the SAT), doesn't want to do the work necessary for another shot at a qualifying score, but still wants everyone to know said subscriber can do very well on such tests.
C. The membership list will always be correctable in terms of adding people, but not subtracting people. If you were ever legitimately considered a member, you remain so forever. (This does not include subscribers who mistakenly became listed as members.)
D. Controversies regarding individual membership will tend to be resolved in favor of the member in question. I don't want to piss people off by putting them through all sorts of B.S. regarding the circumstances under which they were granted membership. (Some small amount of B.S. may be generated by my own disorganization and laziness.)
E. I'll try to crank out a membership list by the October issue, which you can expect to see by Valentine's Day.]

April 20, 1993

Dear Rick,              **LETTER FROM RON HOEFLIN**

It bothers me, frankly, that material is published in <u>Noesis</u>
from non-member subscribers without warning readers that the item is not
by a full-fledged member. This tends to undermine the purpose of the
group, which includes camaraderie among intellectual peers, since we are
not informed who is a purported "peer" and who is simply a "guest."

I suggest, therefore, that an official list of full members be com-
piled and published in <u>Noesis</u> within the next few months. Since Jeff
Ward has been serving as membership officer of sorts, perhaps he can
assist you with the compilation. I believe the list ideally ought to
include the following information:

    (1)  Member's name
    (2)  Member's address (unless, as in the case of Marilyn vos Savant,
            there is a desire to keep the address confidential)
    (3)  Name of the test or tests on which the member qualified (but
            the precise score need not be given)

If this list cannot be compiled from available files, I suggest that you
request all members to send you this information by a given deadline.
Those who do not respond by that deadline will not be included in the
list of full-fledged members, although they may request to be included in
such a list at some later date if they are indeed fully qualified.

A membership card ought to be issued to official members. I would
be willing to produce such a card if no one else is willing to.

I do not consider myself a full-fledged member of the Mega Society,
so the request for a list of official members cannot conceivably be con-
strued as an ego trip on my part.

I feel so strongly that a list of official members is necessary that
I probably will withdraw from further participation in the group if no
list of members is compiled and published by the end of the year—but
preferably sooner.                                    '

                                Sincerely,

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

## POMFRIT'S ANALOGIES

| | | |
|---|---|---|
| 31. ELEPHANT | MONKEY | GANESA |
| 32. SOIL | LAVA | SOLIFLUXION |
| 33. SEA | TIDE | LAKE |
| 34. 10 | 9 | ANKER |
| 35. 12 | 16 | SALMANAZAR |
| 36. HEAD | WIG | GENITAL AREA |
| 37. WAITER | GARCON | WINE WAITER |
| 38. FRESH DAMP PLASTER | FRESCO | DRY PLASTER |
| 39. SPICY SAUSAGE | BOEREWORS | BARBECUE |
| 40. PARALLEL | FRUSTRUM | OBLIQUE |
| 41. EYE | OPTHALMOSCOPE | CERVIX |
| 42. FOLD | FOLD AND CUT | ORIGAMI |
| 43. AMBASSADOR | TREASURER | NUMCIO |
| 44. MAN | WOMAN | VAMPIRE |
| 45. A UNIT OF RADIOACTIVITY | CURIE | A TEAM OF RACING CARS |
| 46. DOMENICO SCARLATTI | KIRKPATRICK | MOZART |
| 47. CACK | HANDED | PALLY |
| 48. BOW/TOUCH FOREHEAD | SALAAM | HANDS TOGETHER/BOW |
| 49. SEAL | PHOCID | WALRUS |
| 50. ANKLE-BONE | TALUS | BONY BUMPS EITHER SIDE OF ANKLES |
| 51. U.S.A. | WALL (STREET) | CANADA |
| 52. 500 | 25 | MONKEY |
| 53. PIG | PORCINE | OTTER |
| 54. SQUIRREL | DREY | HARE |
| 55. FALCONS | CAST | THRUSHES |
| 56. 3 | 5 | (FRED) PERRY |
| 57. ABOUT 120 | ABOUT 59 | HADRIAN |
| 58. FIRST, MIDDLE AND/OR LAST` | ACROSTIC | LAST |
| 59. BURNING | COMBUSTION | BURNING LEAFDOWN ON SKIN AS THERAPY |
| 60. STATE | COLLECTIVE | SOVKHOZ |

[Plus a couple of mine:

| | | |
|---|---|---|
| GRETZKY FANS | 99 | BILL AND TED |
| DOES | OATS | A KID |

    . . . Ed.]

## POMFRIT'S SERIES

P. 1, 18, 72, 184, 375, 666, 1078, 1632, ?

Q. 4 6 4 1 5 8 8 8 3 3 6 1 ?

R. 0, 0, 18, 240, 3100, 46620, 823494, 16777152, ?

S. 4 9 3 4 8 0 2 2 0 0 5 4 ?

T. 2, 5, 10, 17, 28, 41, 58, 77, 100, 129, 160, ?

U. 91, 83, 75, 67, 59, 411, 331, ?

V. 1, 6, 18, 40, 75, 126, 196, 288, 405, ?

W. 1, 4, 18, 38, 108, 152, 270, 338, 500, ?

X. 1985, 2245, 2521, 2813, 3121, 3445, 3785, ?

Y. 58, 89, 145, 42, 20, 4, 16, 37, ?

Z. 58, 89, 145, 42, 20, 4, 16, 37, ?

AA. 420, 506, 600, 702, 812, 930, 1056, ?

[Editor's hint: Some series have commas, some don't.]

## MISCELLANEOUS POMFRIT

What single-digit number makes this sequence palindromic?

| 7 | 10 | 3 | 5 | 1 | 6 | 2 | 11 | ? |

## REMARKS AND PERSONAL RESPONSES FROM CHRIS LANGAN

RICK ROSNER: I apologize in advance for addressing you in what may seem like an overly direct and disrespectful manner. I'm doing it because none of my experience with *Noesis* gives me any reason to think you'll respond to a more delicate approach. I don't want to make you feel bad – I think you're probably a worthwhile person – but I do want to get through to you.

Thanks for calling me a "nice guy". I hope you understand that it wasn't me who seemed to be accusing you of ignorance and stupidity. It was *Jojo*. Part of the reason I invented him was to let say what needs to be said, without the unpleasant necessity of saying it myself. Actually, I regard you as intelligent, but doomed to ignorance by strange mental idiosyncracies. I shouldn't talk; others might make the same accusation against me about their own fields of expertise. The difference is, I don't try to tell fish how to swim or birds how to fly. I have enough regard for their abilities to *learn* instead of argue or ignore. You'll find that this trait is universal among those who come to excel at anything technical.

While Jojo might endorse the adjective "sucky" as a description of your performance as editor, I'd tend to be less extreme in view of your honesty about its shortcomings. My displeasure with you started about the time you introduced my *Noesis* 71 piece with oblique aspersions and Seven Dwarves trivia. You may recall alluding to your own "all-encompassing" theory, for which past Rosner editorials had implied certain CTMU-like characteristics. Unfortunately for that, the CTMU is the Mother of All Theories and is structured such that other theories must either conform to it or be eaten alive by it. Since I'd warned you of this repeatedly, I was finally forced to call your bluff.

I understand that a little entertainment can be good, especially for the expanding circulation *Noesis* so badly needs. But so are standards of content, and everybody eventually has to learn when and when not to laugh. Spend too much time laughing at the wrong things, and nobody will take you seriously enough to let you do anything else. While you strive to attain Alfred E. Neumannhood, others worry about guilt by association.

I'm glad you understand that theories can't be judged on context, despite the fact that you do it anyway. If high-IQ journals are lousy contexts for publishing new theories, that's literally everybody's fault but mine. I see *Noesis* in terms of potential; you seem to see it as just another forum for snide humor, baseless egotism, half-baked opinions, and blatant idiocy. In a very real sense, that which is abused and neglected by others belongs to him who uses it to full advantage. In that sense, I own *Noesis*. I'm willing to share, but it'll cost you more than the intellectual chump change you've been sprinkling on it so far.

You blame some of your incomprehension on "the material". I disagree. In fact, the material is calculated to be full of terse, disguised "proofs" and "aha!" type neologisms. When I use a term

like *syndiffeonesis,* what does it take for the reader to think "*syn* = same, *diffeo* = difference, *syndiffeonesis* = difference-in-sameness = paradox"? Not much, in my book. You and the rest of the group will chew off your own paws to solve a Hoeflin, Langdon, Inman or Pomfrit verbal analogy, no matter how arcane or how alien to your real existences. But let me use a transparent verbal construction to describe real existence itself, and suddenly I take first in the Dracula contest. What's *that* all about?

Let's get real, Rick. Most of us have read plenty of material next to which mine reads like a kindergarten primer, and I've done everything short of writing CTMU fairy tales to get your attention. The fact is, most of the "hard stuff" gets forced down your throat in school, where Joe Professor stands ready to beat your negligent little bottom if you slack (thus, the way you excuse yourself from reading *Noesis* "as if you're going to be tested on it"). May I point out that this is a hell of a standard for living your life? First you do things because your rear gets kicked by the school. Then you go to work for a company that takes turns kicking your rear with the government and your spouse. Then you die. Is *that* why you were gifted with a high IQ?

Probably confident that nobody but me gives a damn, you've called for an informal referendum on your performance. Apparently, the idea is that if I'm the only one complaining, and everyone else likes the show, then it's business as usual. Well, I'm afraid that turkey won't fly. Democracy, as conceived by the ancient Athenians, requires both logic and a sincere, universal desire for communication and understanding. People who respect neither of these criteria, but prefer yukking it up at each other's expense, don't *qualify* for a democracy. Like spoiled, misbehaving brats, they must learn to shut up and grow up before they get to vote. This rule has been arpund much longer than either of us have. If your local porkbarrel pols have forgotten it, that's irrelevant. They and their constituents are why American government is so often described by words like "stalemate", "paralysis", and "gridlock".

Time grows short for you, Rick. Pretty soon, even *I'll* be unable to wipe the egg off your smirking face. You know what I'm talking about. If *60 Minutes* ever does a piece on the Mega Society, do *you* want to be the guy who tries to run away and hide his mug from the camera? Wouldn't it be easier to shape up your act *now?* (On another note, good job on those GRE's!)

RON HOEFLIN: Your fixation on *categories* is, of course, less than "metaphysical". I.e., your system devolves to a *set* of categories which is reducible to individual categories. But in order to define a category in terms of a set of categories, you need the very sort of logical framework you appear to disparage in your letter. Since only the CTMU can explain what the general concept of "category" really means, the only way for you to meet this objection is to embrace the CTMU. Until then, your system is reducible to something which cannot be explained within it, and ·· for the nth time - is *demonstrably* not a theory of metaphysics.

Irreducible categories, being independent to the extent of their
mutual irreducibility, resist exchanges of information. This re-
sistance constitutes a limit on information content at any level
of generality surpassing "independence". Any level at which info
can't flow is sterile; the theory can't evolve and produce new
info at this level. Maybe your theory transcends this by replacing
information and cognition with a bold new style of communication.
Then again, maybe not. If not, your *only* recourse is the CTMU.

Furthermore, your "categories" don't look very original. They ap-
pear to be no more than the standard categories of traditional
philosophy (ethics, aesthetics, etc.) strung together on a time-
based filament called a "purposive act". What, then, is time? What
is purpose? And what is action? Until you possess a logical frame-
work of sufficient flexibility to define these terms at their most
primitive levels, you'll remain in the philosophical outhouse...
confined there, presumably in Lutherian contemplation of the anal
nature of deduction, by a padlock labeled *CTMU*.

If you *are* only trying to "build an outhouse", might I point out
that a crescent moon would fit on the door more easily than would
a grandiose title like "hyperphilosophy"? Etymological analysis of
this neologism shows that it constitutes a reflexive claim of met-
aphysical status. This claim has now been thoroughly discredited
for any system other than mine. The fix is in, and it's worldwide
and permanent.

Your claim to derive no insight from the CTMU is an indictment of
your worth as a philosopher. If you can't understand my clear,
concise letter to the editor in *Noesis* 76, but only the baroque,
labyrinthine schemes of the long dead, then you're just an exegete,
a commentator, an historian. Chris Cole, who does not to my know-
ledge call himself a philosopher, was able to read and understand
the letter in question. Why can't you? Things like relativity and
quantum theory may not provide you with insight, but if not, then
neither does the *reality* of which they are demonstrable aspects.
What, then, is your "theory" but an irreal fantasy?

Congratulations on the reported solicitation of your treatise by a
university press. If I thought that universities had any franchise
on philosophical reasoning, I'd probably be jealous! But in view
of their apparent preference for material like yours over material
like mine, their neglect looks quite like a badge of honor. I
only request that you be very careful to credit me with any of my
ideas that find yourself forced to use, the number of which will
be proportionate to the depth of any valid analysis you are able
to complete. You seem to think that your parallel between Freudian
psychology and traditional philosophy is airtight despite their
own very questionable natures. But the problems associated with
each multiply like viruses under combination, and "firing an
artillery piece in time of war" would be a very poor virustat.

Meanwhile, keep up the good aspects of your work (such as they may
be), and take special care to avoid false or misleading claims.
For example, all coordinate systems are studied within the master

theory known as *coordinate geometry,* where they serve to order
real spaces in mutually consistent ways. If metaphysical theories,
which serve to order reality as a whole, are "like coordinate sys-
tems", then they are all mutually consistent with respect to real-
ity and may be studied within a master theory of true metaphysical
scope (the CTMU). Your thesis requires you to admit this. And Ron,
quit encouraging Rick to argue points on which you have personally
been beaten beyond any hope of reversal. Though I hate to have to
say it, it makes you both look *ridiculous*.

LEROY KOTTKE: The CTMU is not without predictive power. But this
stems from the fact that it *begins* by establishing the existence
of undecidability (since undecidability is mathematically proven,
any theory which doesn't admit it is sheer crankery). Because it
is defined as a reality-exhaustive metaphysical tautology or
*supertautology,* there can never be a "meta-CTMU". More accurately,
just as natural languages like English are their own metalanguages,
the CTMU is its own "meta-theory". The CTMU is nonetheless bounded
in a logical sense. Whatever lacks any sort of boundary is incom-
putable and undecidable by definition; its boundary is that which
*defines* it by separating or distinguishing it from other things
(a fact about boundaries which applies to much more than physical
extent). Total unboundedness would thus imply zero information and
thereby contradict the cognitive and observational aspects and in-
formational contents of the CTMU and every other theory. These
matters can be rigorously treated, but not in terms that most
readers of *Noesis* seem anxious to grasp.

Some background might make this go down a bit easier. Ever since
the time of Aristotle, it has been understood that the existence
of *physics* requires the existence of a broader discipline called
*metaphysics* (a few hard-noses deny this, but what they need is a
good laxative). Now, the study of metaphysics is a process of *gen-
eralization*... how physics regresses to generalized causal (tempo-
ral) and compositional (spatial) relationships. This is the level
at which physical terminology, assumptions, and reasoning can be
"objectively" considered. Asking metaphysics to yield specific
physical predictions, particularly at the introductory stage, is
thus a contradiction in terms. Yet, because the consistency of
physical reasoning requires metaphysical analysis, metaphysics is
entitled to a share of the credit for every prediction of every
valid physical theory. I.e., every such prediction *confirms* it.

It follows that if you can reason logically to a correct theory of
metaphysics, you hit a big jackpot of ready-made confirmations and
"predictions". For example, "my next physical observation will be
consistent with all other physical observations (and therefore
valid when considered apart from any mental construction or inter-
pretation)" is a metaphysical prediction, and it is absolutely
crucial to your grasp of reality. Calling it "self-evident" is
artificially tautologous and logically forbidden. Since it is in-
correctly *assumed* as a basis for every other "prediction" known
to science, any theory which "proves" it - through, for instance,
a recursive interdefinition of *physics* and *observation* - gets a
cut of the booty *ex post facto* (because the specific "prediction"

was logically ungrounded at the time it was made, does not become
a valid prediction until it is, and at this level belongs to the
remedial theory itself). Game, CTMU.

On the physical level, the CTMU makes certain specific cosmologi-
cal "predictions", but currently on scales too vast to admit of
ready confirmation (I refer you to your own *Noesis* 77 paper on
"Fourier cosmology"). That's due to the metaphysical, generalistic
nature of cosmology, a fact which makes all established, respected
cosmologists answerable to the CTMU. The CTMU also makes predic-
tions about so-called *psi* effects like telepathy, telekinesis and
precognition, subject to considerations of undecidability in the
process of *specific* confirmation. Obviously, any logical theory
which predicts psi effects is remarkable for that alone (for what
it's worth to mention it, I've empirically confirmed such effects).
And this, as I've already explained, is but the tip of the iceberg.

Since the first of your *Noesis* 78 letters uses terminology ["U( )"]
from my *Noesis* 76 letter on the CTMU, I can only surmise that you
endorse my conclusions therein. You should thus be aware that the
CTMU is anything but just another "theory of informational organi-
zation and processing". The fundamental relationship between real-
ity and information, which must allow for all aspects of both of
these terms, had to be spelled out sooner or later. Better that I
should do it here, in *Noesis,* than leave it to the ham-handed fum-
blings of people who could not in a thousand years have conceived
of a model in which relativity, undecidability and quantum paradox
become mutually comprehensible. If you're going to try to second-
guess the CTMU, at least recognize it as more than an "executive
computer program". Such oversimplistic descriptions have been re-
peatedly discredited in *Noesis,* and I grow weary of having to be-
labor the distinction.

But perhaps this misses the main point. I don't have to make
excuses for metaphysics, and I don't have to "solve" anything with
it but *metaphysical* problems. Everything else is gravy. The CTMU
already deserves a Nobel Prize; physics has always purported to be
a top-level theory of reality, and it can never live up to that
claim without the CTMU. Want to argue? I advise you to (re?)read
some of my recent contributions. Insist on more numbers? If you
want numbers without logic, go buy an actuarial chart. But if you
like soundly-structured theories, concepts and relationships, that
shining beacon on your intellectual horizon is the CTMU.

BOB HANNON: You keep looking for relativity to "emerge" from the
Lorentz transformation. Relativity is the *basis* of the transfor-
mation and is presupposed. It emerges from the *logic* of the situ-
ation in which the speed of light is found to be an invariant vel-
ocital limit. The Lorentz transformation is a piece of math that
conveniently fits relativistic logic; the logic has priority over
the math. You persistently refer to the LT as a "premise" when it
is in fact a reflection of the premised *invariants* incorporated in
its group identity. If you ever succeed in finding fault with the
"relativism" of Lorentzian mathematics, its successor can only be
relativistic with respect to the invariants you choose. This is

your only possible constructive angle of attack, given your deter-
mination to "debunk" Special Relativity.

Try to think of the invariant speed of light as the boundary of a
space in which velocital frames must distribute themselves in a
way which preserves the distinctions among their velocities, but
in which they become more "crowded" as they near the boundary. The
space is like a topological "open neighborhood" whose homogeneous,
isotropic "metric" is infinitely geometrically compressed at the
(observer-relativized) "edges". The invariant c is associated with
the geometrodynamic identity and represents closure of the space
with respect to its definitive predicates. If you hate the idea of
never exceeding the speed of light in your intergalactic wander-
ings, your job is to find and defeat the boundary conditions of SR
in an appropriate "metasymmetry". To even *try* to do that, you
need CTMU generality and reasoning power.

THE REST OF YOU: I notice two facts about the readership of *Noesis*
that seem to be in total opposition. (1) You like to speculate and
daydream about cosmology and "metaphysics". (2) You don't like
*logical reasoning* about metaphysics.

It is well known to child psychologists that an extreme predilec-
tion for fantasizing and daydreaming over logical reasoning is a
reliable indicator of mental immaturity. On the other hand, IQ is
defined in such a way as to imply relative intellectual *maturity.*
Something's badly out of whack here.

I think I finally know what that something is.
A. You think that metaphysics is so utterly divorced from reality
that, whereas you'd never be caught dead "speculating" about what
you think are matters of hard fact, you feel free to indulge your-
selves when it comes to "metaphysics".
B. You distrust and deeply resent anyone who says that your play-
ground of self-indulgent speculation is actually just another
matter of hard fact.
Thus, by introducing the CTMU, I appear to be depriving you of a
cherished dimension of intellectual creativity.

This appearance is misleading. If a child who's going bananas with
his fingerpaints is approached by a teacher with brushes and a
knowledge of art technique, he may at first feel stifled. He may
thus try to ignore the teacher and continue, like a truculent
chimpanzee, to smear gooey gobs of paint with his paws. But the
teacher, knowing that the little simian's creativity can never
achieve full flower without guidance, must not be deterred. The
fingerpaints must be appropriated, the paws wiped clean, and the
innocent young mind guided, through an acquired appreciation for
the knowledge and talents of others, towards the realization of
its own budding talent.

The CTMU is not a monolith. It is a vast open terrain whose most
general features have been mapped in principle, but whose total
exploration can never be completed in time. This, after all, is
the nature of reality, and the CTMU - as a *theory* of reality -

must reflect the nature of that which it "maps". It is wide enough
to accomodate the creativity of any number of local cartographers,
and is meant to aid rather than hinder their explorations.  It  is
the friend, and not the enemy, of your creativity.

There  is also a fair possibility that some of you,  despite  your
inability to challenge CTMU logic,  are repulsed by its  religious
overtones.  Since religion may be the most powerful single  factor
in world history, any claim that you aren't interested in it would
be proof positive of a pathetic disconnection from reality.  Maybe
you find the subject "distasteful",  or suffer from deep infantile
conditioning at the hands of "big religion".  But in any case, the
CTMU was destined to emerge through the consciousness of  somebody
with the courage to admit its religious significance,  and I  have
no apologies to make for pointing this out.  It is entirely up  to
each  of you to make your peace with it.  Though it can  wait  for
your submission, its terms will not soften, and ignoring or resis-
ting  it is a strategy without honor or reward.  It takes guts  to
face the truth, and you know what they say: *no guts, no glory*.

One  last thing.  There are two schools of thought about what  the
Mega Society is. The *Rosner/Clifton School*  maintains that it is a
ridiculous collection of culturally advantaged underachievers. The
*Langan/Cole School*  maintains that it can, under the right circum-
stances,  "change the world".  The truth is presently somewhere in
the middle (I've already planted seeds that will lead to  profound
change, even though the *Noesis* garden is choked with bizarre weeds
planted by others). One solution to this problem would be to iden-
tify the members of each school, segregate the underachievers in a
section of the journal tentatively entitled *Mega Comix*  (edited by
Rick and/or Jojo), and *then*  attempt to "change the world" free of
piss-ant internal interference.

Remember,  this society claims a distinction which allows it to be
different from others of its kind:  it is the highest among  them.
Maybe the lesser societies *are*  confederations of misfits, cranks,
and whining nerds.  But did you, who claim (actively or passively)
to be the cream of earthly intelligentsia, join this group because
you wanted to be *the worst and most insufferable nerds  ever?*   Or
did you join because you hoped to become acquainted with people of
comparable ability,  who thought the right way and cared about the
right things?  I've invested quite a bit of my time and energy  in
the latter hypothesis, and it's high time you made up your minds.

There  is  absolutely no excuse for a group with  Mega's purported
problem-solving  firepower to be "all blow and no show".  I'm  not
alone  in my desire to see this group live up to its  hype.  Chris
Cole,  among others, seems to have had high hopes for us.  If such
hopes are ever to be realized,  it will be through the efforts  of
"determined  and frustrated" (but logical) theoreticians who  spit
in the face of common cynicism about IQ societies.  Give me half a
break,  and I'll continue to run point for you.  Stonewall me, and
I'll have to run it *over*  you instead.  The four-year proof of  my
ability to do this is one done deal.                    Chris Langan

C.M. Langan                                        4/14/93
P.O. Box 131
Speonk, NY

Dear Chris,

     In reviewing Noesis #58 Feb. 1991, in my restless search for
meaning in my surroundings, a few questions occurred to me that I
hope you can/will/may answer.  In keeping with your request to
address disagreements to a line number, I extend this to include
comments as well, and not necessarily to present them in
numerical order.

Number 5. "  The CTMU is a theory of the codeterminate
relationship between reality and the intellect....Because
physical theories necessarily have logical structures, logic has
priority."
     Presumably this defines reality and the intellect as being
two separable entities; are you are separating these two
interdependent elements for the purpose of revealing their
interdependence?  I can understand this; but why does this imply
that logic has priority? If I agree to this, then in your system,
facts are subsumed by logic.  How does this square with a
recursive relationship between facts and logic that serves to
define both? I have often been baffled by the seeming artificial
but strong need for human interaction with the non-human world to
be predicated on separation of subject and object, which when
accomplished, can then be dispensed with, and the reality of the
whole can then be perceived as it could never have been had that
separation not taken place.  I think that there is a good reason
for this..indeed a necessity for this, which is revealed in
physics formalism as the collapse of the wave function.  The
reason for this is that if I don't have a wave function, then I
can't have a collapse.  So I believe that it is all a put up job,
a consequence of nature exercising its right to maximum ambiguity
in light of no constraints.  If I (as cognitive observer) don't
choose to exercise my rights, then nature can behave however it
wants to.  In no way did logic lead me to this conclusion.  It
was the result of observation and induction.  I say that logic
was not involved in this to emphasize the difference between
logic as formalism and that process inherent in human cognition
that may or may not be best described as a logical process.

Number 6  A very important distinction can be made between a
definition and a theory.  A definition can be exact and eternal,
a theory cannot.  How do you answer the question: "How can the
CTMU can explain Heisenberg Uncertainty in a certain fashion"?;
i.e., not be uncertain itself?  A theory can and should explain
relationships between events, and a dynamic theory or theoretical
structure has the potential to be its own object in an
interactive and/or recursive sense. That is, definitions and
theory interact in such a way as to refine their relationship.
The question of their distinctiveness or separability is
secondary to their interactive relationship.

What is "IT" in the CTMU that enables man to be both the observer and the subject, since IT purports to examine the interrelationship between MIND and UNIVERSE? Does the CTMU have boundaries or limits? If so what are they? Or is THAT the uncertainty aspect?

Number 4 The flaw in your reasoning may be that your conviction of the logical nature of the CTMU and its verification by ALL physical theories is self-defining AND self-verifying, and as such is a closed system. A closed system is by definition delimited, and can be proved by its own methods only to be incomplete.

Number 7 Does the CTMU explain synchronicity? Synchronicity certainly defies conventional logic, and if it could be put on a "logical" footing, that would imply a superior understanding of this phenomenon. By synchronicity I mean the apparently acausal inordinate, unconventional pairing of events that should, by conventional probabilistic estimates be nearly impossible. But yet based on my observations, and the reported experiences of others, the conclusion I make is, tentatively, the more isolated an event is, the higher the probability of a similar event becomes so that an event-pairing is conserved. The image of the Fourier Transform of an temporally isolated event keeps coming to mind on that note, with the sidelobes neatly representing similar events that are separated by and in contention with a central main reality, an infinite multiplicity of event pairs flank these, in both positive and negative extent, analogous to past and future, although they exist in eternal space, and their magnitude corresponds to the relative probability of their occurrence. Or perhaps the explanation of synchronicity calls for the structure of a higher order logic along the lines of a Matrix Logic such as created by August Stern; he claims to be able to place fundamental physics calculations in a logic framework as well as conventional logic as a subset of his new method. He manipulates logical quantities after placing them in a matrix format, borrows inner and outer products from mathematics as fundamental tools and defines the results in such a way as to be very convincing as to their potential generality, although I notice a lack of specific results. What does the CTMU say about synchronicity?

Number 12 This "incredible" model presumably invoked to explain away an inconsistency between infinitesimals and zero to resolve inconsistencies in the infinitesimal calculus sounds interesting--but seems unnecessary since 0/0 = anything, its just a quantity in need of further definition, such as the derivative.

Mr. Leroy Kottke
4787 Dawson Drive
Ann Arbor, MI 48103

Dear Leroy:

I'm in receipt of your 4/14/93 letter. Naturally, I'll be happy to address your questions regarding *Noesis* 58.

4. The CTMU is a *supertautology,* or a universal tautological formulation of reality. A tautology is "closed" because, if it were "open" with respect to every informational parameter, it would be devoid of information. The human cognitive syntax is a tautology because it is a vehicle for information, and this information includes the syntax itself.
As soon as you say anything definite about something, you are distinguishing that which it is from that which it is not (i.e., from its logical negation). This distinction forms a kind of *boundary.* The "boundary" between a predicate and its logical negation, like any boundary, effects closure with respect to the distinguishing parameter.
No boundaries, and no closure, would therefore render any theory totally uninformative and useless. The existence of real information therefore implies that global reality, on whose generalized information all specific information depends, is closed with respect to informational parameters.
Thus, the CTMU *must* exhibit closure with respect to the informational parameters of its own theoretical syntax. However, this closure is associated with the empyreonic identity and is ultra-generalized. The CTMU thus remains open with respect to specifics, as it has to in order to represent locally undecidable aspects of reality.

5. You need to distinguish between separate *things* and separate aspects of one *thing.* Because it is a supertautology, the empyreon can only be *one thing* of which every lesser thing is an *aspect.* Cognition, as interpreted within this system, then becomes an operation among different aspects of one unified whole, whence these aspects can be regarded as *cognitive transformations.* Determinacy, because it is informational, must now be *relativized* to transformative syntax. It is in this sense that the mind and reality are "codeterminate". Similarly, cognition and information, or subject and object, are mere aspects of a single agency, *infocognition.* They are "separable" only on a localized, relative basis.
Facts are subsumed under logic - i.e., logic has "priority" over facts - because logical relationships are generalized factual relationships. I.e., logic is a model for factual reality at a level of generality transcending specific facts. Your logical syntax has a form no less definite for its ability to acquire and assess arbitrary specific facts through observation and cognition.
When you say that "logic did not lead you" to a given conclusion, but that *observation* and *induction* did, I don't know what you mean. Observation and induction are governed by observational and

inductive syntaxes that are logical in essence (if they weren't, then you could achieve no intelligible formulation of your obser- vations or inductive processes).
Your distinction between logic as "a formalism" and as a cognitive "process" is problematic. The process of which you speak is self- describing, and thus a "formalism" for itself.

6. Your distinction between a definition and a theory is meaning- less. To go along with your terminology, "2 + 2 = 4" is "exact and eternal", and therefore a "definition". But it is also deducible within the *theory* of arithmetic, and therefore a theorem (or sub- theory of the overall theory). Perhaps this is what you mean when you speak of the "interaction" of theories and definitions. In any case, I fail to see how your position differs from that of the CTMU, except in your extremely informal use of terms like "exact and eternal".
It might help you to try to explain the difference between a *defi- nition* and an *axiom* in an "a priori" theory like arithmetic. One gives a predicate of a thing; the other, of a relationship or pro- cess among things. But they both give *information*. In the CTMU, information is always relativized to cognitive syntax. Theories are assimilated by cognitive syntaxes as knowledge is acquired. So definitions are indeed refined as theories evolve, and this in turn refines the theories. But this is one of the major *points* of the CTMU. If you have a different point to make, what is it?
Remember, the CTMU is "complete and consistent" *only* at an ulti- mate level of generality. This is true because you can no longer regress to more general theories once you exhaust the capacity of your cognitive syntax. Since the CTMU considers syntax a *variable* with respect to evolving systems like human minds, there is no danger of its formalism being exceeded. I.e., it is invariant with respect to certain variables with open definitions, and thus with respect to the undecidability to which those variables are subject and which characterize their definitions. Lesser theories, like those of standard physics, lack this level of invariance and are therefore susceptible to undecidability.

7. "Synchronicity" is an etymologically restricted term which im- plies that two apparently related but causally unconnected events have occurred at the *same time*. The "same time" constraint is non- general and thus of limited use. In the CTMU, this concept is gen- eralized as *synalogy* (etymology: SYNthetic + ANALOGY), which means the same thing minus the time restriction. I.e., a synalogy is an acausal "meaningful coincidence". Since quantum nonlocality is an example of synalogy, and since the CTMU offers a syntax for nonlocality, the CTMU obviously offers a syntax for synalogy; and since synchronicity is just a restricted form of synalogy, the CTMU syntax applies to it as well.
Inductive regression in search of causal and compositional rela- tionships terminates at *unbound telesis*, the observer-relativized collapse of which creates *information*. Telesis is distributive over spacetime and may thus undergo nonlocal collapse due to cog- nitive parallelism among distant observers, thereby reflecting the absolute inseparability of cognition and information.
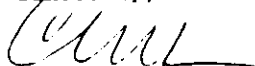
Given the close relationship between causality and decidability, explanations of synchronicity are limited by the undecidability of acausal relationships.

12. The inconsistency explained by nonstandard analysis resides in the definition of an *infinitesimal* as "an infinitely small *nonzero* quantity". It has nothing immediate to do with "0/0". As it happens, however, the means by which the CTMU resolves paradoxes of infinity and infinitesimality - i.e., the CTMU *interpretation* of nonstandard analysis - does conduce to meaningful interpretations for such terms as 0/0.

I have a few suggestions for you. (1) Many of your questions regarding early issues of *Noesis* may have been answered in later issues. Read them. (2) Don't be caught dead seeming to agree with my critics, e.g., Hoeflin or Rosner. They are already caught in completely untenable positions, and any appearance to the contrary is strictly a temporary illusion. That they see every opportunity I give them to save face as a chance to spit in mine has a price you may not want to share. I'd be forced to treat you in kind, and you don't want to become a world-class laughing stock (nothing looks quite as pathetic as having been outclassed and refusing to admit it). (3) Your thoughts on "Fourier Cosmology" are insightful and meaningful, but only make sense in the CTMU logical framework. The CTMU is the long-awaited "mathematization" of the Bohm-Pribram "holographic universe analogy", concerning which similar insights on Fourier analysis have been around for some time now. Of course, the CTMU is much more as well; it develops on a metalogical basis what Bohm and Pribram noticed by serendipity, and vastly improves other cosmological perspectives in the bargain. Because it has logical priority over the Bohm-Pribram analogy, it underlies phenomena like laser holography and thus determines the extent to which the holographic analogy is valid.
I'll send both of these letters along to *Noesis*. Incidentally, why don't you write an article on Stern's "matrix logic" formalism for publication?

Sincerely,

Chris Langan
P.O. Box 131
Speonk, NY 11972

Chris Langan
P.O. Box 131
Speonk, NY 11972

April 29, 1993
Ann Arbor, MI 48103

Dear Chris,

Thank you for the letter, I will order the seminal work on the CTMU (I gather these are issues 44-49), as you have convinced me that it is indeed extraordinary and furthermore, that I need to think more seriously about it. I didn't mean to be flip in my approach to the CTMU, its only my way of groping around and trying to orient myself in unfamiliar territory. I am not aligning myself with anyone person or perspective at the moment, except coincidentally. Your explanations and suggestions were most heartening and I am glad to see that you don't mince words, and perhaps more importantly that you do not respond vindictively when invited to. I know that truth seeking is not easy and I am not about to be put off by a few seemingly insensitive remarks. I honestly hope that the CTMU is as great and comprehensive as it seems. My approach so far has been to ask questions that when answered, will take me farther toward resolving the things that bother me the most. This may or may not lead me in the best direction. I recognize that there is a problem here, because if I was perspicacious enough to ask the questions I need to ask to further my understanding of something that I don't understand then I probably wouldn't need to ask them in the first place. So I can now more fully appreciate your guidance in understanding the CTMU. I have often, just for fun, reviewed my approach to understanding a given situation and compared my unenlightened approach with a better approach that I would take, given my enlightened state. The moral is always that I would prefer to take the enlightened approach. Don't mistake my brashness for arrogance. I am not arrogant. I am ignorant.

All that aside, while I am waiting for the seminal expository works on the CTMU, I would like to charge ahead, your remarks to Rick, in Noesis 76 are interesting, but I still don't understand this: You say that the CTMU is a supertautology. Is its' domain two valued logic? I don't understand how self-referential (closed) systems can be both two-valued and many valued. I can visualize this: an unbounded logic system can include both 2VL and MVL and in the limit, as the space-time context approaches infinity, then a supersystem (CTMU) used to describe, if not define, this state can become all-inclusive and hence self-referential. But I fail to understand how it is possible for a tautology, super or otherwise, to be unbounded. Does MVL collapse to 2VL in the limit? Is this a fair assessment of what you're saying? That the supertautological nature of the CTMU exists as a limiting situation? If so, I can begin to see why its utility is secondary to its structural nature, since we already have a lot of predictive theories with their accompanying uncertainty, and an ultimate structural theory would be very desirable. You and your CTMU are in the enviable position of invincibility, being self-referential and still super cognizant

and omniscient. Any challenge to its internal structure can be easily dismissed on the basis of irrelevance since by definition, in the unassailable limit the CTMU is all inclusive and hence can easily regard this pseudo-intrusive challenge as just part of the CTMU. These challenges and denials by members are then just part of the CTMU and are to be expected and assimilated into its ultimate structure. I think you have to admit that this is somewhere between certainty and uncertainty. That is, I don't appear to have any choice but to succumb to the CTMU, and any protest I may try to posit will certainly be met with a counter squelching force of a magnitude sufficient to stop the protest before it even says boo--this much seems certain. This position makes self-determinism an illusion, as is probably correct. However, the big question is: "What is the reason for this uncertainty about a consensual universal answer--the CTMU--why all the angst"? I guess, I would answer, because we haven't reached the limit yet, and won't, because of the assumed unbounded nature of the universal reality set. However, it seems to me that you have convinced yourself through a process of projecting the limit through imagination that it exists; I mean you have taken it to the limit mentally. And where does this mental state reside? Is this a real solution?

$2 + 2 = 4$ is a statement composed of definitions; namely $2,+,=,4$. The theory, of arithmetic, says that an operational connection exists that is proveably true given the immutability of the symbols--> reality relationship, ($2$ is always $2$, and not something else). This has an excluded middle logical aspect in the sense that the numbers are absolutely distinguished from each other; once and for all, $2$ retains its essential nature, at least for the duration of the proof of the validity of the above relationship. One of the $2$'s does not become a $1$ while simultaneously the other $2$ inflates to a $3$ so as to preserve the sum of $4$. That would be a different equation; $a + b = 4$. The structure is retained and eternal and the same as $a + b = c$. What has changed is the definitions, the theory is still true! It may be useful to make a distinction between an axiom and a definition, but I fail to appreciate it. Both are "givens" in my book, starting points, unprovable and unassailable but they don't "give" information; they ARE information. Relationships "give" information but the information they yield is a dependent quantity, probably relativized to cognitive syntax.

I am mostly interested in numbers for their recreational value, but believe in logic and mathematics as codified structure, in which I am most interested. These disciplines have an eternal nature; but just how eternal is eternal?

Thanks for the discussion. I notice that in your description of the CTMU as the "mathematization" of the Bohm-Pribram "holographic universe analogy" the mathematization is in quotes. Does there exist a succinct mathematical description of this analogy? I think of a hologram (actually a piece of holographic film) as a spatio-temporal invariant codified

information bank whose decoded exposition is available only in an extended temporal sense. So that any information exchange exhibits observer (temporal) dependence. I think that a holographic film model of the universe is quite appropriate. I have enough experience with this mode of phenomenal knowledge to offer a thought about the limitations of this model, and not coincidentally, the limitations of the universe that it represents. If I equate the universe with a piece of holographic film that was "exposed" appropriately at an instant in time in the past, and then stretched in space-time only to be re-examined at a later time will it be found that not only was no "information" lost due to contextually migrating cognitive transformations or entropy or such things, but the informational discrimination (precision) has been enhanced due to the temporal stretching of the expanding, aging universe? Just as the resolution of an image formed from a larger piece of holographic film is sharper, but no different in qualitative content than a smaller piece?

Sincerely,

May 05, 1993

Mr. LeRoy Kottke
4787 Dawson Drive
Ann Arbor, MI 48103

Dear LeRoy:

Issues 44-49 of *Noesis* were indeed the ones in which I
introduced the CTMU. I took over the editorship during the first
half of 1990 in order to do this without having to tolerate the
kind of unreliability and half-baked editorial comments I've en-
dured since. As it turned out, I was such a "popular" editor that
I had to write them nearly in their entireties (with the notable
exception of another member's ill-fated attempt to improve on my
resolution of Newcomb's paradox). Watch out...despite what I
thought was a very clear writing style, all of these issues are
reputed to be virtually impenetrable.

The CTMU supertautology is defined as an "expansion" of the human
subjective cognitive syntax, or HSCS, with respect to its accept-
ing ("observational", recognitional) stage. The human accepting
syntax is logically one-valued; that which you can sense is real,
and what is real is true and never false. 2VL arises when we form-
ulate various aspects of reality in contrast to their logical neg-
ations and complements in order to "cognite" it. MVL arises when
we begin to apply various mental constructions or relational hypo-
theses to this 2VL formulation of reality in order to predict it
or cognite it on higher levels. Infinite-valued logic (IVL) arises
as the terminus of an HSCS-open inductive regression through arbi-
trary causal and compositional arrangements of these hypotheses.

Since these hypothetical relationships are how we explain "objec-
tive reality", MVL characterizes *objective* potential which has not
yet collapsed as 1VL HSCS/subjectively-perceived reality. MVL is
merely the logic of probability, uncertainty, and undecidability;
the surprise comes when we realize that, due to the way in which
the HSCS and objective potential are interlocked, the latter is
*literally* MVL-structured for purposes of human cognition. In CTMU
terms, the distinction between objective and subjective reality
disappears at the empyreonic identity (concerning your related
question, the CTMU is *both* a subjectively-projected mental limit
*and* an objective reality; the two are finally indistinguishable).
Thus, an instance of quantum collapse is a cancellative transition
from MVL (telic) to 1VL (actualized) reality, where it is under-
stood that the operative undecidable determinants need not arise
entirely from *human* telesis but may come from nonhuman HSCS-con-
sistent telors.

Notice that CTMU tautological structure is invariant through the
transition from infinite to finite to single-valued logic. I.e.,
closure applies throughout due to the stable HSCS basis of the
transformation. Recall that the empyreonic identity is described
as an "infinite-valued parallelism". *Parallelism* implies that
everything is "invariant" in the sense of simultaneous intercon-

nection, a mathematical requirement of informational stability
relative to the HSCS (where the stability of each bit of recogniz-
able information reflects its homomorphism to the empyreonic iden-
tity and thus to the informational totality thereby represented).

Naturally, we can't just be throwing terms like "infinity" around
without defining them a lot better than other mathematicians and
cosmologists. We have to take a *computative* approach to infinity,
defining it as a syntactical (denumerative or discriminative) con-
straint on certain "interminable" processes and "unbounded" sets
and spaces. When we do this, we find that synax-relative infinity
corresponds to metasyntactic closure. The senses in which the CTMU
is "closed" and "open" are thus properly distinguished in terms of
empyreonic inductive stratification.

Consider the Turing halting problem, in which infinity is cryptic-
ally defined on a *computative* relationship. In order to attempt
to compute the *uncertain* validity of an *undecidable* hypothesis
("machine alpha will halt"), machine beta must embark on a nonter-
minating ("infinite") computative "cycle". Where everything is re-
duced to *infocognition* - in which alpha here occupies an *informa-
tional* and beta a *cognitive* role - this is in fact the only
definition of infinity that counts. Infinity, whether parallel or
sequential, cardinal or ordinal, becomes the daunting prospect of
any transducer embedded in or attempting to simulate another which
has the capacity to outlast it, outreach it, or in any way contain
or en*close* it.

Let's come at this from a slightly different angle. Take the terms
*infinity* and *all*. We use them to encompass totalities that we
either cannot, or would rather not, enumerate. Thus, they are to
some extent *open* with respect to content. Yet, they have *closed*-
form definitions which are well-distinguished from those of other
terms. In fact, one can load either of these terms with arbitrary
conditions and constraints which describe the exact sense in which
closure applies (e.g., *"all* wombats *which* are both pregnant and
have not lost their tails"). But this is true only because closure
is implicit in their bare definitions or the definitions of terms
to which they apply. Because subjective and objective reality are
identified in the empyreonic identity, this HSCS convention is
generalistically "objectivized". Thus, it makes perfect sense to
speak of an "infinite but closed" universe....and of a "big bang"
and "big crunch" which may be "infinitely" far away in the past
and future, and yet identically distributed over time. By the way,
*eternity* must be treated like infinity; it "lasts" long enough to
encompass any discrete HSCS-syntaxified process, but is instanta-
neous at the identic level of reality. In fact, time and space as
we know them arise only as artifacts of metasyntactic restriction;
without the attending inductive stratification, the universe is an
atemporal, "instantaneous" flash of parallel self-differentiation.

When I put a word in quotes, it can mean any of several different
things. It might denote a neologism. It might denote an existing
word whose standard definition doesn't quite cover my context of

reference, but which I've decided to extend thereto. It might de-
note sarcasm. Or it might be a signal that while some people may
use this word in the context at hand, I don't consider it entirely
appropriate for the context as I believe they define it. Regarding
"mathematization", reasons two and four apply. I.e., the CTMU is
*so* mathematical that it transcends known types of mathematics,
and the quotes were a warning to those whose ideas of mathematics
are obsolete or artificially restricted by confusion about mathe-
matical concepts like "infinity".

Regarding the relationship of definitions to theories, and the
general features of the holographic analogy, you prove yourself a
very quick study. Keep up the good work, and let me know what you
think after you read your back issues of *Noesis*. Try to keep one
thing in mind as you do: you are searching for *meaning*. The CTMU
is a *religion* of meaning. I open its doors to you because you are
a human being, and as members of mankind and cooperative partici-
pants in *one* reality, we are - beneath the beauty and variegation
of physical individuality - ultimately *one* Being with a *free will*
in which we both share. For the first time in human history, these
things have become logicomathematical verities.

Incidentally, congratulations! My records indicate that you are a
nonmember-subscriber to the Mega Society journal. However, simply
by recognizing the importance of the CTMU, you have elevated your-
self to a higher position on the scale of actual intelligence than
most of our "members", and you can take that to the bank. This is
due to your performance on the top-level "IQ test" encrypted in
the form of my contributions to *Noesis*. Of course, your score is
only preliminary and approximate, but it is clearly among the most
promising to date. [To see why the CTMU is superior to other adult
intelligence tests which have appeared in *Noesis*, consider that
(1) it imbues every aspect of reality and is thus "unbiased" with
respect to those parts of reality in which you dwell and in which
you are interested (practically everyone has thought about what
reality is, and anybody who hasn't has no business taking *any* high
level IQ test); (2) its points are logically and mathematically
solved and need not be "scored" on bases like consensus or point
of view; (3) it has now been tried out on a group of well-studied
subjects with respect to whom it displays an unprecedentedly high
"top end" (inasmuch as most of them are well on their ways to
flunking it through neglect or implied rejection); (4) by its very
nature, it can only be designed and administered by a *real* genius
intellectually qualified to judge the intelligence of others; (5)
as an ultimate theory of the nature and scope of intelligence, it
is uniquely valid as a scale of intellectual awareness; and (6) it
is no mere bag of puzzles, but has such innate importance as to be
invulnerable to questions of motivational deficiency.]

Sincerely,

Chris Langan
P.O. Box 131
Speonk, NY 11972

ROBERT J. HANNON          4473 Staghorn Lane          Sarasota FL 34238-5626
5 May 93


Chris Cole
Box 9545
Newport Beach CA 92685-9545

Dear Chris,

A) Given:

(1)                 $x' = (x-St)/\sqrt{(1-S^2/C^2)}$
(2)                 $S = \beta C$
(3)                 $C = x/t = x'/t'$

According to the basic rules of algebra, (1) is incomplete. (1) must be completed by substitution of (2) and (3) and simplifying. The result is:

(4)                 $x' = x\sqrt{[(1-\beta)/(1+\beta)]}$

B) Given:

(5)                 $t' = (t-Sx/C^2)/\sqrt{(1-S^2/C^2)}$
(2)                 $S = \beta C$
(3)                 $C = x/t = x'/t'$

According to the basic rules of algebra, (5) is incomplete. (5) must be completed by substitution of (2) and (3) and simplifying. The result is:

(6)                 $t' = t\sqrt{[(1-\beta)/(1+\beta)]}$

C) Equations (4) and (6) are the sole completed and correct results of any derivation of the Lorentz Transformation.

D) Equations (1) and (5) are the conventional Lorentz Transformation. They are invalid by virtue of being algebraically incomplete. The Theory of Special Relativity is founded on (1) and (5). When (1) and (5) are completed, the mathematical foundation of the Theory of Special Relativity vanishes. Therefore, the entire Theory of Special Relativity is founded on incomplete algebra and is invalid.

E) Where is the error, if any, in the foregoing?

Best regards,

Robert J. Hannon          *Noesis* Number 82 June 1993 page 23

# REPLY FROM CHRIS COLE

Dear Bob,

You state in your letter that the entire theory of special relativity is based on incomplete algebra and is invalid. For this to be literally true, thousands (millions?) of very intelligent people would have to be unable to do algebra. Is this likely? Also, since the theory has been verified experimentally over and over again, somehow nature would have to be unable to do algebra too. Is this likely?

Since I find your position so untenable, I am probably going to have a hard time refuting it. This seems counter-intuitive, but really isn't. Since you are able to believe something I find unbelievable, we probably share very little in the way of common ground. I know you have a scientific and technical background, but obviously you did not need to use special relativity in your day-to-day work. As a particle physicist, I did. And since we share little in the way of common ground, I will find it difficult to construct any kind of edifice that you would agree to stand upon. I already have evidence of this, when you brushed aside my earlier gedanken-experiment demonstrating time dilation.

In fact, your abhorrence of special relativity may be so complete that you are willing to completely rewrite your world-view, just so you do not have to believe in special relativity. This has happened many times in the history of thought, for example, the philosopher Henri Bergson had a theory of time in which time was measured by the subjective sensation of the occurrence of events. Bergson felt that the synchronization of time was because people perceived events at the same rate. When early relativists uncovered the twin paradox (wherein a twin that is accelerated to near-light speeds ages more slowly than one who is not), Bergson argued that since both twins perceive time the same, it was impossible that one should age more slowly than the other. Bergson was simply unable to adjust his world-view to adopt the new conception of time.

I perceive in your letter an attempt to approach me on the supposed common ground of mathematics. Unfortunately, this is an illusion. To paraphrase Bertrand Russell, "In mathematics we do not know what we are talking about, nor do we know if what we are saying is true." In other words, unless we share a common interpretation of the mathematical symbols we manipulate, we will not get anywhere. For example, I infer from your letter that you think it contains a convincing refutation of special relativity. I do not see that it contains any such thing. I see that it contains some algebra, but if this amounts to a refutation of relativity, you must read things into these equations that I don't see.

I note that you have published many pages on this subject, without a lot of comment by other people. I also infer from you mailing your letter to me that you want more feedback. I would like to give you more feedback, but I'd like to "cut to the chase." You seek one of two things: truth or glory.

If you are a glory seeker, your only problem with relativity is that you didn't invent it. You seek the glory of being the only human being out of five billion who shows that the emperor has no clothes. Your need for this glory is so all-consuming that anything I say will be ignored. So please don't waste my time.

If you are a truth seeker, you have some specific problem with relativity, as Bergson did. So, putting aside all the mathematics, what is it about relativity that bugs you?

<div align="right">Chris</div>