

Noesis

The Journal of the Mega Society Number 94 June 1994

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IN THIS, THE LOTS OF GOOD STUFF (NOT THAT I READ ANY OF IT) ISSUE
EDITORIAL STUFF, INCLUDING AMAZING NEWS ABOUT PI
PUBLISHER'S APOLOGY – OR WHY THIS ISSUE IS SO STINKING LATE
SOME MORE POMFRIT PUZZLES
G. ARTHUR MORRISON ON THE TWIN PARADOX
AND ON CHESS
ROBERT DICK ON AMERICA'S IMPENDING FINANCIAL DISASTER
AND ROBERT DICK'S SHORT WISDOM APTITUDE TEST
CHRIS HARDING ON INTELLIGENCE
JOJO EINSTEIN AGONISTES

Contrary to all expectation, the final digits of pi have been found. Discovered by Dr. Katherine Kim, Professor of Nonlinear Differential Equations at the University of Washington, the last digits are 754043145460129. In an announcement published in the May 17 issue of *Nature*, Dr. Kim followed the final "9" with a happy face signifying surprise and pleasure at her arrival at pi's end. In a news conference, she pointed out that her discovery will have no effect on the way math is done in the real world, since even the most exacting engineering calculations use no more than the first 30 digits of pi. The Editors of *The CRC Handbook of Chemistry and Physics* have issued a news release stating that they will adopt the happy face convention in their 1995 edition.

In reply to Stuart Schweinwetter--no one was ever indicted in the Aunt Bea murders. Eventually the D.A. resigned. No trace of the "second Benji" was ever found.

ON CENSORSHIP

A letter from Chris Langan ran in the April issue. In it, he tells Bob Hannon that Jojo Einstein, Hannon's fictional alter ego, is prepared "to mock and dishonor your thesis on various mathematical and comedic grounds, thereby serving notice that your privileges as a contributor are in danger of rescission." Hannon wrote me a letter which appeared in the March issue, saying that he'd "received a letter from Chris Langan, threatening to prevent further publication of my writings in *Noesis*. I will appreciate hearing from you in that regard," to which I replied, "I'd appreciate hearing from Chris Langan verifying the threat and specifying how it would be carried out." This was kinda stupid on my part--I never saw Langan's letter until later and had no idea what Hannon was talking about.

But the whole thing is kinda stupid. In case you haven't been paying attention, high IQ journals in general are kinda stupid, much as we might wish otherwise. (Not that I wish otherwise. Why should editing this journal be an island of nonstupidity in my really stupid life?) Anyway, it's good to make fun

of stuff, and it's good to have stuff to make fun of, even though it would be really good to have stuff to run in *Noesis* that's so high quality it's beyond ridicule.

The only way Chris Cole or I censor stuff submitted for publication is if there's no room for it. Some articles I send to Chris with Post-Its reading, "Run if there's room. If not, send it back to me." Then I send them back to Chris for possible inclusion in the next issue. There's almost always room. (By room, we mean, can we run it without adding so many pages that postage is gonna cost too much?)

Here's a little secret--I put the shortest articles, or the angriest, or the ones I think people will be most likely to read at the very front of the journal. Lots of articles by the same person on the same general subject end up towards the back, as do articles I suspect many readers have seen in other journals. However, I notice at least a few people read the whole thing.

If you're offended by some material you consider goofy or questionable, the only way to prevent further such submissions from being published is to crowd it out with better material. Here's

ONE SUGGESTION

on the painless creation of better material--

Don't try too hard. You don't have to spend lots of time and effort composing some Nobel Prize-winning thing. Just jot down the things you think about when you're not trying to think. You're all smart observant people, and you've all noticed some weird funny things, like how scary old people's underwear is, or how lots of people have some secret place to wipe their boogers (under the bed, on the transmission hump).

Here's my theory--There's a conspiracy of dumb people to make smart people think about the things smart people are supposed to think about, like philosophy and physics. Nobody is really interested in that stuff. It doesn't make you rich or get you laid. But if smart people quit thinking about chess and math and started to think about the things dumb people think about--how to get rich, how to get laid, they'd kick ass on dumb people, hence this huge conspiracy. So, send in the material you've worked hard on, the relativity, the matrix algebra, the stuff we smart people are supposed to think about. But also, send in your smart thoughts on dumb stuff, interesting, cheesy, sleazy stuff.

Some members have suggested we not run stuff that's already appeared in other high IQ journals. This is a pretty good suggestion. However, the only other journal I get is Hoeflin's *Oath*, so I don't know if some stuff has been submitted elsewhere. Also, we generally have room for almost everything submitted. I suggest people who submit to multiple journals practice self-restraint unless they have specific reasons to send their stuff to more than one journal.

PUBLISHER'S APOLOGY -- OR WHY THIS ISSUE IS SO STINKING LATE

As I write this it is well into October, making this the latest we have ever been. This is not Rick's fault. It is mine. There are a variety of causes for this delay, all of which have to do with my personal and business life (and all of which are good, in the sense that I have been too busy doing fun things). However, since it is not fair to make you wait so long for *Noesis*, and I do not seem to be able to get un-busy, Rick and I have worked out a new system. Under the old system, Rick would send me copies of the letters and so forth that he received together with a diskette containing his editorial comments and a letter explaining how he wanted it all laid out to form an issue. I would then paste up the issue and send it to the printer for reproduction and mailing. This paste up process usually took me a few hours, and it is these few hours that I just have not been able to spare in the last few months. So, Rick and I have worked out a new system. He will do the paste up, sending me photo-ready copy. All I have to do is hand these to the printer for reproduction and mailing, which should not take me more than five minutes. This of course puts the monkey more squarely on Rick's back, so to make the job easier on him, please try to adhere to a few simple rules: send him stuff on individual 8.5" x 11" white sheets of paper with two inch

margins at both the top and bottom. Make sure the printing is quite dark and is at least 12 point type. If you can, make it Times Roman. If you can, put a title on the article that is bold, upper case and centered.

Hopefully under the new system future issues will get out on schedule. Again, sorry for the delay.

POMFRIT PUZZLES

A goat/shed problem, reworded for clarity:

A rope, of length **P** is wound around a circular shed of circumference **P**. One end is secured and the other is attached to a goat. The goat walks around the shed twice, always keeping the rope taut and without retracing its steps, until it returns to its starting point. In terms of **P**, find how far it walks.

[Now try the same problem, replacing the goat with a monkey. Surprisingly, the distance is longer by almost three percent!--Editor]

A goat is tethered to a post on the perimeter of a regular hexagonal grass garden of side 5m. If the goat can reach half the grass, Find its radius of action (to say 5 decimal places) when it is tethered **A.** at the midpoint of one of the sides, and **B.** (more difficult) $\frac{3}{4}$ along a side from one of the vertices.

[Try problem **A.**, replacing the goat with actor Charlie Sheen. The answer differs by less than .002 percent!]

Analogies

XI. COLORED VISION	CHROMATOPSIA	COLORED HEARING
XII. +21	ZETTA-	-21
XIII. PARALLEL	PERPENDICULAR	STRETCHER
XIV. RED	BROWN	RHODOPHYCEAE
XV. $\frac{1}{4}$	$\frac{1}{8}$	NIP
XVI. OUNCE	POUND	WISDOM
"	"	PRACTICE
"	"	DISCRETION
"	"	EXPERIENCE
"	"	PREVENTION

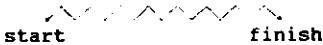
G. ARTHUR MORRISON ON THE TWIN PARADOX AND ON CHESS

[Ed's comment--The "identical cousins" on *The Patty Duke Show* were actually played by identical twins!]

Dear Rick,

Since practically everybody else has already jumped in, I thought I'd have a go at elucidating the apparently controversial "twin effect".

Twins A and B are together at the start and finish, and are observed from a given inertial frame S. Each twin carries that well known gedanken-device, a light-bounce clock (a box containing two parallel mirrors, reflecting a packet of light waves back and forth. Each bounce is a clock tick). Twin A has constant velocity throughout the experiment from starting point to finish, obviously including the case of being at rest. The path of the light ray in A's clock schematically looks like this, through a powerful telescope, very far away along the z axis in frame S),

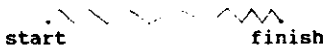


We use this telescope arrangement so that simultaneous events in the x-y plane in S will appear simultaneous to our observer, to avoid confusion due to Doppler effects, etc.

Consider the light path as a multiply broken straight line, stretching from Start to Finish. Remember that each zig or zag (line segment) is one tick of the clock. The length of a segment is proportional to the elapsed time in frame S for one clock tick; it is the hypotenuse (=c) of a right triangle. If A's velocity = v, then each tick will be $c / \text{sqr}(c^2 - v^2)$ times longer than that of a motionless clock, as observed in the spectator's frame, equal to the famous time dilation factor:

$$(1 - (v/c)^2)^{-1/2}$$

Twin B, however, changes velocity along the way. Looking at the situation from frame S, the light path in B's clock is non-uniform: some of its segments will be scrunched up and others stretched out, something like this:



The length of the two paths, the sum of the lengths of all the segments, must be the same for both A and B, since light travels the same total distance in the same time in the same inertial frame. What does this imply for the total number of ticks on B's clock? B's path isn't a "straight line" anymore. If it had the same number of segments as A's path, it would need to be longer than A's path, since A's "straight line" is the shortest path for a given number of segments. But we know it is the same total length, therefore to compensate, B's path must have fewer segments. (Incidentally, B must tilt the mirrors slightly when accelerating, to keep the light from escaping the clock). To summarize, spacing the segments evenly gives a maximum number of segments: a maximum number of ticks (maximum aging) means uniform motion. Any acceleration during the trip produces fewer clock ticks for the accelerating twin. If reductionism holds, if biological processes are purely "physics", then inescapably the traveling twin ages less than the stay-at-home.

To find the total final time difference δt as a function of B's acceleration during the trip, let S be A's rest frame. Then B's rate of time increase, at velocity v , is $\text{SQRT}(1 - (v/c)^2)$. Thus

$$\delta t = \int_0^t (1 - (v/c)^2)^{-\frac{1}{2}} dt - t$$

Where v is the integral of B's acceleration over time (in frame S):

$$v(t) = \int_0^t a(s) dt(A)$$

Expressing this result generally in terms of acceleration as experienced by B would involve Lorentz-transformed transverse accelerations and would be much more complicated. However, for straight motion, a simpler argument applies: The L- transform for acceleration in the direction of motion (from rest frame to frame S) is:

$$\frac{dv}{dt} = \frac{1}{g} \frac{dv'}{dt'} ; \quad \text{where } g = (1 - (v/c)^2)^{-\frac{1}{2}}$$

Since $dt = (1/g) dt'$, the "Galilean velocity" (B's calculation of B's own velocity based on a Galilean-Newtonian world view) is

$$v' = \int dv / (1 - (v/c)^2)^{-\frac{1}{2}} = c \tanh^{-1}(v/c)$$

where v is B's velocity as observed by A.

Then

$$v = c \tanh(v'/c)$$

Twin A's time interval is $(1/g) dt(B)$. Therefore

$$\delta t(A) = \int dt (1 - \tanh^2(v/c))^{-\frac{1}{2}} = \int \cosh(v/c) dt$$

I.e., if you are traveling in a straight line, at each moment you calculate your Galilean speed as a fraction of c , and take the hyperbolic cosine. This is the ratio of A's clock rate relative to yours. Integrating this over your entire trip gives the total difference in clock times on your return.

Example: B accelerates constantly at one Earth gravity (a), reaching a Galilean speed of c in one year, then decelerates to a stop at the same rate, and returns to the starting point in similar fashion. Time for B is 4×1 year. The time on A's clock is then:

$$t(A) = 4 \int \cosh(at/c) dt = 4(c/a) \sinh(at/c) = 4.70 \text{ years}$$

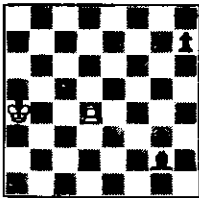
More spectacularly, for $t(B) = 4 \times 10$ years, same acceleration, $t(A) =$

44,052 years. For $t(B) = 4 \times 20$ years, $t(A) = 972$ million years.

Chess Computer Update: Deep Thought's upgrade, called Deep Blue, is expected to challenge Gary Kasparov sometime this year, provided IBM's precarious financial position holds up.

Has the perfect chess game already been played? Using the formula from Noesis 67 page 3, a player of world champion strength would typically make about 82½ perfect moves against a perfect opponent. So the probability of two top grandmaster opponents playing a perfect game of 40 moves is roughly $p = 0.82^{2n} = \text{about } 10^{-7}$. (n = number of moves for each player). How many games have been played at this level? Hmm, well...guess: 10000, giving a chance of 1 in 1000 for a perfect game. Including all grandmasters increases it to say 1 in 100 or so. Starting to look interesting...

For mega-chessians, a subtle endgame problem; white to play. Find the winning line, if there is one.



Elaborating on "context editing"...I quote from Gardner's Fads and Fallacies, 1957:

"There are five ways in which the sincere pseudo-scientist's paranoid tendencies are likely to be exhibited: 1. He considers himself a genius 2. He regards his colleagues...as ignorant blockheads. Everyone is out of step except himself... 3. He believes himself unjustly persecuted and discriminated against. 4. He has strong compulsions to focus his attacks on the greatest scientists and the best established theories. 5. He has a tendency to write in a complex jargon, in many cases making use of terms and phrases he has himself coined".

Kevin: Glad to hear you enjoyed that word problem. I did find one answer that fits fairly well: "bureaucrat", but I can't help thinking there's a better one.

A question to ponder: Does Jung's idea of the collective unconscious have any connection with Chomsky's idea of grammatical deep structure, both alleged to be genetically transmitted?

June 24, 1994
13 Speer Street
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ROBERT DICK ON THE COMING DEPRESSION
AND HIS SHORT WISDOM APITUDE TEST

Noesis

To the Editor:

America is heading straight toward financial disaster. Most knowledgeable people know it, but few realize that it is likely to happen sooner rather than later. There are two causes: government deficit spending and unfavorable balances of trade year after year. We cannot forever keep giving people pieces of green paper for their valuable goods. Thus private debt to foreign nations must sooner or later be paid or the flow of goods will stop. But even worse is the public debt.

The American public debt is huge and increasing by more and more every year. Some say "We just owe it to ourselves. It's like shifting money from one pocket to another." That is not true. Much of the national debt is financed with Treasury bills (T-bills) bought by foreigners. Once these people realize that the US government cannot ever balance a budget they will begin to wonder: "How will we be paid back?" Clearly, old investors can only be paid back by the money put in by new investors as in a pyramid scheme unless something new happens. Greater risk requires a greater promise of return. It is becoming clear that T-bills are becoming less and less safe. The Federal Reserve will therefore have to keep raising interest rates in the name of "defending the dollar." This even though it will bring the economy to a screeching halt.

Defending the dollar will be no easy thing. It used to be easier for the US government in the past. I have seen it written that during the Cold War the West German and Japanese central banks bought huge quantities of dollars when the dollar's value was under pressure. These financial contributions helped win the Cold War. Now Germany and Japan have no further need to halt the slide of the dollar. Japan is under increasing pressure from North Korea, it is true, but there is nothing the United States can do about it. The famous Patriot missiles can only shoot down short-range rockets. Intermediate range rockets travel too fast for that. Spaceborne "Brilliant Pebbles" could protect Japan, were they deployed, but the Clinton administration has killed them. Thus do military and financial realities interact.

As high interest rates stifle the American economy both the stock markets and the bond markets will crash. High interest rates will also kill the market for home mortgages, and therefore for housing. Real estate prices will crash as well. This will cause many banks to fail, invoking FDIC insurance of bank deposits. The result will only make T-bills worse risks, and so on.

There is a name for this economic process that will hit us soon: Depression. The only hope now to stave off depression is to cut government spending drastically while there is still time. The biggest part of the US government budget after paying interest on the national debt is the "entitlements": Social Security, government pensions, Medicare, welfare, etc. The only way to balance the budget is to slash entitlements. The government should immediately start

paying only some fraction of what people say they are "entitled" to. For example, paying 80 cents on the dollar would make sense. Insuring banks for only 80% of their deposits will also make bankers more cautious about making bad loans, and depositors more careful of bank soundness.

This drastic policy would be followed shortly by electoral defeat for any politicians who vote for it. Therefore it has no chance of happening. Therefore a depression cannot be stopped. The government is far more in debt now than in the 1930's. Therefore the oncoming depression will be worse than the "Great" Depression of the 1930's.

Depressions historically have happened at (very roughly) every 60 years or so for the past 500 years. They are nothing new. For example, the British "South Seas bubble" was followed by depression when the bubble collapsed. Similarly with the Dutch "Tulip Mania." Claiming that the American economy is now depression-proof is like claiming the 17-year locust threat over because it has not happened for the past 16 years.

There are basically only two kinds of depression: Inflationary and deflationary. I have described above what I consider more likely: a strong defense of the dollar leading to deflation. The alternative would be even worse: failing to defend the dollar would lead to inflationary depression. The government can, of course, print all the money it wants and it can pay off its debts with "funny money." That would be an even worse disaster. As the economy collapses government insurance and welfare responsibilities will mount. Running the printing presses overtime to "meet" these responsibilities would lead to runaway Weimer-style hyperinflation. At the height of the German depression following World War I it took a wheelbarrow load of high-denomination bills to buy a loaf of bread.

Hyperinflation is so bad that a government that tries it is usually overthrown. If the US government is not incredibly stupid--and perhaps it is--it will choose deflation over inflation. Either way the welfare state as we know it is finished. Just as the Soviet Union found it impossible to run a society where no one makes a profit, so the Western welfare states will soon find it impossible to run a society where no one takes a loss.

What can individuals do? First of all, get out of debt. Deflation would make it very difficult to pay back loans. Second, if you live in a big city or one of its suburbs, move. When the welfare tap is turned off we can expect the worst rioting and the highest crime rate in American history. If you are one of the fortunate few with considerable wealth, keep your passport in order and get your money OUT of the USA while you still can. But of course, do not sink your funds into some other welfare state.

Acknowledgement: I am indebted to Davidson and Rees-Mogg for some of these insights published in their book The Great Reckoning.

Very truly,

Robert J. Dick

Robert J. Dick

Introducing the SWAT

By Robert Dick

13 Speer Street, Scarsville, NJ 08876 908/722-6949

Rick, I'm glad you enjoyed my angry sardonic article. Thanks for making it a guest editorial. I think you are doing a fine job as editor, except that I find a three month turnaround time quite emotionally painful.

I read with interest the Wisdom Society's brochure. I have one main caveat: It simply is not true that a free and fair discussion will ultimately find out truth. It all depends on the participants. The Wisdom Society faces a dilemma: Either it must have some membership criterion or it must admit all who apply. Clearly, the latter will lead to hopeless deadlock or reduction to the least common denominator. Conversely, an admission criterion will probably prejudice the outcome of society deliberations.

It is with these thoughts in mind that I modestly put forward my solution: The Short Wisdom Aptitude Test (SWAT). At present it only has three questions, and is meant only to give the flavor of what should be a longer test.

The SWAT

- 1) Find the next term in the following series:

1 f 3 e 5 2 g 4 ?

- 2) The book of Job has the richest Hebrew vocabulary of any book in the Bible. It was probably therefore written by a highly intelligent person. Most of the book is an extensive debate. Quote in the book's own words (translated to English, of course) the author's conclusion on wisdom.

- 3) The following is an anecdote I no longer remember exactly. Nevertheless, my recollection will do. A reporter interviewing Albert Einstein told him an "Einstein joke" to get his reaction:

Joe: "I see in the paper that Einstein is going to Japan. Who is Einstein?"

Schmo: "He invented the Theory of Relativity."

Joe: "What's that?"

Schmo: "For example, if you are kissing my foot I am in the relatively better position."

Einstein's reaction: "Why Japan?" The reporter found that quite odd and amusing.

Aspirers to wisdom: Answer Einstein's question.

This concludes the SWAT.

CHRIS HARDING ON INTELLIGENCE

Dear Rick,

I'm informed that the following piece of mine has now been published in Telicom the Journal of the I.S.P.E. by Rich Kapnick. Dr. Kapnick informs me he wishes to later publish it in his next book 'Thinking Beyond the Edge' the follow up to his 'Thinking on the Edge' which has apparently been successful.

I don't think he will mind it's also appearing in a limited circulation publication like Noesis. Accordingly I have appended it below. Hopefully this will provide some kind of 'balance' to all those 'faster than light' items increasingly members may be wishing they'd never seen !.

Best Regards,

Chris. Harding

WHAT IS INTELLIGENCE ?

- Chris. Harding.

In its modern meaning it still means processed information. To the military and Intelligence Agencies intelligence means the assessment of factual content; literally what something means to the receiver. This amounts to evaluation of worth or the relative level of importances of details. The more intelligence we have the better is this ordering process. Intelligence and quality are thus seen to be intertwined both in our everyday existence and in any seek for truth; indeed truth itself may be so defined. In this we have given ourselves perhaps some sense of direction.

However, we have in saying the above bemused ourself, for we have a definition which looks a bit like: 'a chair is a wooden object for sitting on'. It and our above definition are little more than 'outward descriptions' of what we are trying to get at. What we need is both a definition of a mechanism ie the mechanics of its operation and a general definition which will allow a totally inclusive definition of intelligence as a continuum from zero to infinity ?. In part the definition which we began completes the second part of our requirement but only in part and barely at all. It more describes what we seek than anything of profound importance.

In this regard the study of flight in birds may add little to our understanding of wing design in aircraft. Just as early work on maned flight became bogged down by over consideration of detail we may just as easily have gone astray in our concerns about conceptualising structure.

As an aside, the principle underlying intelligence may have only a limited range of operation. An infinite mind may be impossible. There may be some point beyond which the function we call mind may become asymptotic with respect to its effect. But this is mind in the 'weak' anthropomorphic sense. We make no judgement of course about the possibility of some infinite entity in our culture referred to as God.

The first part of our above requirement that of discovering some mechanism by which thought arises presents us with our greatest difficulty. It is the subject of search of neurologists and psychologists throughout the 19th and 20th centuries and may yet dominate their concerns into the next century.

Only two ideas so far have met with much success. The first relates to an underlying notion that speed of mental processes are of overriding importance to any concept of mental level. The faster we think the greater our chances are that we will assemble some coherent fragment of our total world picture and ultimately the total extent of the embrace we may thus achieve.

This leads to the connection between intelligence in its purest sense and knowledge both factual and conceptual. It explains why the very bright have very large vocabularies and why the dull suffer in this respect, all other things being equal !.

The second is that speed is only comparable as a final outcome and is achieved at its own expense in the earliest stages of the problem solving process. During evaluation of the problem before us we need to set up an effective search of what we will be finally seeking. It is the thoroughness of this stage of the process that allows for the depth of the 'crunching' processes that we will be able to bring to bear against the problem. It is as though an inner computer programmer were at work writing the code by which the rest of the mind is to be driven.

In some sense this is observed in so far as the modern view of psychology suggests that the central conscious mind 'loads' the many 'skill' functions of its separate minds, verbal fluency, numerical operation, motor functions, simple skill processes etc. etc. into its domain of operation. Our errors are the result of loading the wrong mind functions and slowness to unload these from the conscious mind. We see in this the modern personal computer divided into its conventional memory area (that below 640K) and extended and expanded memory above this bound and encompassing very often these days many megabytes of memory. Our modern computer programs switch blocks of memory in and out of conventional (processed) memory, our analogy with the conscious mind. Operating systems control such events along with their memory managers and/or control this within the programs themselves.

What we may say here is that the secret of evolved and complex structure is to be found in the principle of modularity. Again by analogy with the computer world we see the similarity with the driving power of leveraged control and the nature of extended functions in computer languages themselves where frequently used functions may be simplified by the economy of a simple set of key strokes in our line listings or where we may call down library functions thus avoiding the process of rewrite.

We may see some solution in the above in the view that if you make something complex enough it will automatically contain the answer. Does then that define what we are actually looking for? Could it be little more than this. Differences in mental level may have about them accidental differences in efficiencies in an unpredictable way in the forward time sense. Once these have become 'ingrained' their 'backward' or 'retrospective' power may increase in accordance with their degree of use. Thus ones 'smarts' may be seen as the effective usefulness of ones approach which has attained effective self-modifying potentiality.

Added to this view is a notion that the personality structure has a part to play in this in that personality structure may define the context in which the field functions of intelligence operate thus reducing the extent of the pure 'crunching' that must be carried out. It is thus a sieve through which the minds world view is parsed. This is witnessed in degradation of the mind in mental illness where intelligence finally fails altogether in severe cases and is impaired to some degree no matter how mild such illness may be.

Ultimately our limits to mental development show up as increasing self-awareness, it is an end process by which an increasing level of self-ordering (data compression and the like) have been maximised and beyond which point no gain can take place. That is the nature of consciousness. As an end point it serves no other primary use. That this contains a sense of a 'self' derives from the fact of a transferability of elements of this manipulative process. Such 'Partial sets' have about them an equivalent representation for the whole of our experience and the marshalling of such gives us a sense of unity for the totality of our experience of a particular field, activity, or object that takes our focus or concern at any point in time and says in effect I am I. Differing perspectives create equivalents for any examination we wish to carry out about ourselves. The point of focus is thus lost in a sea of sameness and gives an endless sense of boundlessness. One has in this a notional idea of split-sets. Whether or not these might turn out to be mathematically applicable to our understanding is strictly speaking hard to say.

On a wholly practical level we may fail to describe consciousness simply because as a mechanism its parts are discrete. The interactions of these 'parts' are what forms consciousness. In effect we are left with literally nothing to speak about but the return of an 'echo' that is recognised as having an origin within the 'process' of consciousness per se. This leaves us with little that is in anyway remarkable. We have or can in effect only recognise the outcome of what we do as opposed to how it is done. Partly this may well be because we have little that can be identified as some how 'belonging' to any set path position or method of procedure. We have these potentialities but much of their use is random and coarse. We thus have a sense of actions having taken place. This 'sense' becomes an identifiable 'self'. What we see is an abstraction of all our abstractions. This abstraction of abstractions reaches a qualitative loop restriction which can find no greater self containment and no greater process of 'inclusion' within its own functions. It is the end point of the asymptote. The outer boundary of the 'self' is so formed: It is the thing we can make no improvement upon: We can do nothing further with it and so it defies our attempts to grapple with it.

There is the suspicion that spoken language is only a secondary function and that its primary use like that of personality structure allows for a form of manipulative processing that breaks the back of recursive stack overflows allowing slow organic brains to deal with things in a way superior to that of the electronic computer that set to do similar tasks that we as humans find easy grinds to a halt. Language may well be little more than an outward manifestation whose usefulness we acknowledge socially but are unaware of inwardly. We confuse it with creativity elevating this process to some magical level as though few possessed it when in fact the 'creative' have by their life experience simply become aware of their own inner processes and taken charge of them through the bootstrap-lifting processes of inner language and self-actualisation.

However we may see things it may be said that mind is or becomes a process of accumulated view points that are unaware of their respective positions. Each island of thought each impulse knows no rule unlike our computers but carries into the world it is dealing with a reaching for rules that may validate its position. Rules are secondary. We learn this when we try to develop expert systems that wind up no more than novice systems when we lay down an accumulation of rules. The human learns the rules and in the process learns to forget them as s/he passes on to the stage of being an expert.

It is the form not the content of the form that constitutes real knowledge. The medium is indeed the message. We relate facts ideas and things because they form 'parts' for a later ordering process. Rules become a check on extravagances. It is the outward natural convergence of processes in the world that are the natural steps followed by the mind, the final arbiters of order. The conclusions reached are seen as inevitable, the unfurling of the cloth of context.

On the way to this the bound may be crossed between the quantitative processes of the simple computing device and the qualitative leaps of human insight via any statement of a purely arbitrary position. This act alone of taking a position may in effect make something out of the seeming nothingness that confronts our analysis and has given us the idea that the problem of mind is unsolvable because it appears initially to be bottomless.

The impulse alone which we may liken to curiosity or questioning may set the stage for such definition to later "acts" of "mind" and make recognizable our later attempts at structuring. The foundation for curiosity itself may be nothing more than an activity which seeks to reduce internal disturbance. The brighter we are the more curious we are; the brighter we are the more sensitive we are to our own internal states; the more we wish to right such disturbances.

This 'principle of the arbitrary' may be the final ground state to be found for the universe itself; just as our algebra tells us that adding a minus one quantity to an ordinary number of value one gives us a zero so the definition of anything requires the definition of its opposite. Every enlargement of our perception requires us to take a position whether this be 'the position paper' a view point or to try 'top down analysis' it is all the same thing to the world in which we find ourselves. That world is binary. It is both quantitative and qualitative by its nature.

One good example on a purely practical level suggest that distinctions between Crystallised and Fluid intelligence functions long defined by psychologists and for many years a research obsession might simply be one of cross-indexing ?. Crystallised intelligence concerned with the learning process is largely related to accepting what is ie. the form of an item is as it is given. The distinction between the two beyond a mere function of memory or storage is to be found not then in any structural thinking process per se but in the 'items' cross-indexability. Those items that are in a form where they can not be 'reduced' to more generalised forms are those we take to be 'crystallised' whilst those enjoying simpler forms are those items or things we count as evidence of fluid (adaptive) intelligence. If the 'form description' for an item is simpler it will have greater transferability and greater potential cross-indexability for us and thus afford greater insight. We may go further and point to a decline in 'indexability' purely on the basis of long term storage capacity. In computer terms the aged human brain is much like attempts to defragment files where the disk storage is closing out on its limits. The machine will run slower. The same effect can be seen as on board memory starts to fill.

The issue of what is intelligence should in more practical terms be divided to include basic underlying functions or recognition of 'objects' ie those processes that allow the formation of such and the higher non-skill conceptual processes this being hinted at by notions of 'pattern recognition' and the 'analytic process'. It is a view held here that they do in fact describe differing definable levels rather than offering alternative theories of mind. Some progress seems to have taken place with the former. If it has not with the latter it may be as a result of there being nothing to find our views taken above providing something of the reason for this not being the case.

It is as though we must first provide a foundation in stone to work from. Once this is available then it is seen that experience bundled into ever larger chunks alone (from an enlarged span of attention and greater potential for structuring of such experience) gives rise to the growth of intelligence. If our view above is in essence approximate in its degree of correctness and scope then the extent of such connections definable to an observer of it as a phenomena expresses its level. We need look no further than this. Differing 'styles' of intelligence and mind will of course be as diverse as nature can make them.

Unfortunately, Jojo Einstein's planned appearance in this issue of *Noesis* has been postponed due to illness. It seems that Jojo, many pages of whose latest adventures were on the verge of submission, became sick to his stomach when he realized that nothing he could do or say amounted to a rolling doughnut in the face of our most urgent problem.

Readers of *Noesis*, particularly those of long standing, know that I have generally been mild with my critics until provoked, where "provocation" denotes lame and/or repetitious criticism. I habitually protect the feelings of others until their utterances fall so afoul of good sense that mollification becomes counterproductive to the intellectual growth of them and the Society. What seemed to be my harshest reactions were in some cases held back for years in the vain hope that unfavorable opinions would evolve over time. In any case, I like to think that I've been reasonably successful in convincing the more rational among you that my viewpoint cannot be casually dismissed.

Sadly, not all of our extended readership is "rational" by any reasonable definition of this attribute. Rationality implies that one is sufficiently openminded to amend his beliefs, attitudes, and behavior in the face of countervailing logic, or at least not to oppose mathematical evidence in plain sight of others who are able to see it.

I have responded seriously to Robert Hannon on at least four separate occasions in this journal. His counterresponses have run the gamut from offhand dismissal to torrents of pseudomathematical nonsense carefully designed to simulate actual knowledge for those who begin with no idea of what knowledge actually is. Unfortunately for Robert, the members of this society have not been selected for stupidity. Nor have they been selected for infinite tolerance of stupidity in others, particularly nonmembers who arrogate large sections of their primary channel of communication for the purpose of insulting their intellects.

I have a letter from Robert in which he makes certain remarkable assertions. Let me give you two examples. (1) He believes that I, and presumably his other critics, may use "violence...perhaps a bomb" against him. (2) He believes that IQ has no bearing whatsoever on intelligence, but only on "the ability to do well on IQ tests". E.g., this implies that if a man and a monkey are given an IQ test, and the man scores higher, this in no way confirms the higher intelligence of the man.

These examples immediately make two things clear. (1) If Robert thinks he is functioning "rationally", his definition of the term differs radically from anyone else's. (2) Robert considers the Mega Society to be an empty pretense, and each of its members to be a rather pathetic kind of fool for joining it (to understand why he persistently contributes to its journal under these circumstances, it is necessary to refer back to (1)).

Noesis currently has an open-door policy with respect to contributors. Generally, the idea behind such a policy is to produce a variety of competing viewpoints, the healthiest and most incisive of which will prevail in its conceptual arena. This, of course, is based on the assumption that the competitors are sufficiently sane and well-motivated to admit defeat if the evidence requires it. If any contributor is not so-disposed, the idea becomes self-defeating. The journal becomes an exercise in illogic, and nothing else it contains can escape that shadow. While no theory should be

judged merely on its venue, the fact remains - and we can attest to this as one - that even intelligent people are susceptible to contrary tendencies. I refer, of course, to initial circumstantial evaluations of the CTMU, whose inherent resistance to logical criticism should by now be painfully clear.

Accordingly, I have found it increasingly difficult to rationalize my own participation. After spending almost five years to convince my fellow Mega Society members of the CTMU, I am faced with what appears to be a Sisyphean battle against someone who not only fails to qualify for membership, but who routinely denigrates the abilities of those who do. Call me a quitter, but I'm at the end of my rope. I will not wrangle interminably with somebody who displays chronic irrationality, especially on behalf of victims who show no inclination to align with me in their own defense. Believe it or not, my insights have more pressing applications.

Robert Hannon's running diatribe against the two main theories of modern physics resembles an infinite tape loop of grey noise, patternless but for its mindless repetition. Even if relativity and quantum mechanics weren't backed up by reams of empirical data, it is easy to annihilate his criticisms point by point on a mathematical basis. Besides giving whole new meanings to terms like "obsession" and "fixation", his canine loyalty to his own mistakes threatens to shear *Noesis* of its subscribers like a sheep of its wool. Regrettably, the time for action is nigh.

I therefore offer the following suggestion. Only Mega members may contribute to *Noesis* without a member sponsor who can be held accountable for content in the event that errors are made and the author proves unwilling or unable to admit or correct them. E.g., in the present case, this would have enabled me to pin down somebody who has established at least a modicum of intelligence and rationality. Thus, if Hannon submits another pile of tripe for publication, and it appears in *Noesis* without explicit sponsorship, I can assume that the editor has reviewed it and decided to sponsor it himself...in which case Hannon's disordered thought processes cease to be a factor. Instead, I deal directly with Rick, treating the errors as if he generated them personally (and I do mean "personally", by name).

Thus, nonmember contributors are not excluded from the journal, but may indirectly be held to standards appropriate to a group purporting to select its members for stratospheric IQ.

This would have two beneficial effects. (1) Mega members would no longer be made to look like helpless fools being alternately kicked and led around by their noses by this or that discombobulated monomaniac. (2) *Noesis* will not lose me as a contributor. Some of you might not like the CTMU, but neither do some children like eating their vegetables or other necessities of life. I currently have a monopoly on the most powerful theory ever devised, and have been trying to share it with you for some time now. That makes you "important" in a sense alien to the low-echelon high-IQ societies. Admit it or not, that's worth something; whereas, what people like Hannon give you is nothing but intellectual red ink. In any case, I cannot continue to publish in *Noesis* if my contributions have to share space with material whose absurdity degrades not only the publication itself, but all who read and write for it.

Our mascot, Jojo Einstein, sends his regards to each of you. His adventures with a generic crackpot may - or may not - appear in a future issue of *Noesis*.
Chris Langan