

**From:** "Al seckel"

**To:** "Jeffrey Epstein" <jeevacation@gmail.com>

**Subject:** Re: For your careful consideration

**Date:** Mon, 08 Nov 2010 22:42:24 +0000

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That will work. I spent some considerable amount of thought, at a fairly high level, to do specific targeted wording that would leverage into big gains along your lines of thought. To also show that you have thought deeply and knowledgeably about many lines in the hard sciences.... it does not make you look bad, just better, deeper, broader.

It is important to use words correctly and avoid vague ones... For example, in terms of AI, to switch it to "common sense" is not at all meaningful. "Common sense" is too vague a phrase. For example, people can build competent machines now, they can do the task you want, but the trouble with the AI approach is that they are not "intelligent," they can't self-adapt to new situations as outlined in 2 and 3 of the AI section I outlined. That is the main problem with the current approach of AI... They keep building gadgets, so what....

The better search algorithms for mathematical theorems and proofs would be enormously helpful. This is quite different, of course, from what Stephen has tried to do with Wolfram Alpha. He has not been able to do it. Humans can still check complex proofs and theorems far better humans. This would be an enormous breakthrough in science. Same thing for better search algorithms for mathematical knowledge. Google is good at data searches, but not smart knowledge searches. I have tried to come up with new lines of thought in all these areas that I am somewhat familiar with, although some people I am sure, and know, are working in them, but they really are not well traversed....

Also, I was a little perplexed that you removed some things that you had originally put in your notes to me, but I put in their correct form and phrasing. So, that is confusing to me. You also removed other material you originally proposed.

There were also lines of thought that are in parallel with what I think you are trying to do. I am getting a sense of what you are trying to do with the areas you are most interested in. So, I am glad you left in things like quantum cryptography, etc.

But this is serious stuff, and I would like to talk to you about it in some depth. Thursday or Friday works fine for me.

Sorry, you removed all the theoretical physics stuff out... :( For example, when I wrote about finding applications of Anti de Sitter Space and Conformal Field Theory to other areas of physics, such as nuclear physics, etc. was quite an interesting take. It turns out that doing this has recently had enormous ramifications and breakthroughs in nuclear physics (just speak to Ed Witten), but it has not been applied to these other areas, and could lead to amazing results, and especially in terms of high temperature superconductors.

Again, none of this implied or guaranteed that you would fund anything, but it is a way to see what is out there, and perhaps, just perhaps, something interesting can come through....

Let's talk next thursday. I am meeting in the next couple of days with this uber hacker. Don't ask his name as he is not even allowed near a computer or he gets a "life sentence." He has already spent enough time in jail. Together with Pablos, over the past couple of days, we discussed some of the most difficult things to remove. Already noticed that the google page is cleaning up... We haven't slacked even a day or an hour. Lots of time and effort on your behalf....

Hope I am not boring you with all this stuff...

I hope you also see that we set up the conference line to record your interviews, which we would like to start doing.

Cheers,  
me

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**From:** Jeffrey Epstein <jeevacation@gmail.com>  
**To:** Al seckel <[REDACTED]>  
**Sent:** Mon, November 8, 2010 2:01:35 PM  
**Subject:** Re: For your careful consideration

i appreciate your effort. , thurs or fri

On Mon, Nov 8, 2010 at 5:00 PM, Al seckel <[REDACTED]> wrote:  
Let's talk about this...

When are you available. My thoughts were not perfunctory.

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**From:** Jeffrey Epstein <jeevacation@gmail.com>  
**To:** Al seckel <[REDACTED]>  
**Sent:** Mon, November 8, 2010 1:51:35 PM  
**Subject:** Re: For your careful consideration

Specific attention will be given to robust original research proposals in the following areas:

Building an "intelligent" machine, with common sense

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Membrane computing as it applies to biological systems.

Evolution of signals and signal processing..  
replication , mutation fitness

Application of algebraic topology to  
Cryptography

Quantum cryptography phenomenon, and wave  
phenomenon

Code Breaking capabilities of viruses, in  
both chemical physical and quantum states

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About these links

## **Astrobiology**

Specific attention will be given to robust original research proposals in the following areas\*:

Origin of pre-life

Pre-life as replication of signals

## **Cognitive Neuroscience:**

Specific attention will be given to robust original research proposals in the following areas:

Computational neuroscience, e.g., biologically informed models of memory and learning

Mirror neurons

Pattern recognition

Musical imagery

Music as language

Neural feedback loops

Neural correlates of visual or other sensory illusions

**Economics**

Specific attention will be given to robust original research proposals in the following areas:

New financial systems, barter, cyber currency,

Friction cost and benefits of all financial transactions, and its analogy to intelligence

## **Language**

Specific attention will be given to robust original research proposals in the following areas:

The relation between signals and symbolic representations in the phonological component of language.

## **Medical**

Specific attention will be given to robust original research proposals in the following areas:

Placebo effect, psychedelics, gender interactions

Psychopharmacology

## **Molecular Biology**

Specific attention will be given to robust original research proposals in the following areas:

## **Quantitative Social Analysis**

Specific attention will be given to robust original research proposals in the following areas:

The derivation or origin of the behavior of Pareto, Zipf, and other power laws, and why power laws appear to apply broadly in the hard and social sciences, and require biological components

Prisoner's dilemma and iterated prisoner's dilemma, and its relation to real-life examples, only in multi dimensional games. observers and their roles

## **Quantum Information Science**

Specific attention will be given to robust original research proposals in the following areas:

Quantum information theory

Massive entanglement and decoherence

Macroscopic quantum physics

Quantum parallelism

Quantum computing photosynthesis

Quantum cryptography

## **Theoretical Mathematics**

Specific attention will be given to robust original research proposals in the following areas:

Algebraic topology, and the theory of special types of manifolds in various dimensions

Category theory, especially as it relates to computer programming language semantics

Lie groups and Lie algebra in coding theory

Knot theory

Geometric Langlands theory

Infinite dimensional Lie algebras

Automorphic functions

## **Theoretical Physics**

Specific attention will be given to robust original research proposals in the following areas:

## **Scientific Pioneers and Geniuses**

These individuals must display an exceptional creativity and inventiveness in his or her way of work, offering a decidedly new and scientifically verifiable way of thinking, imagining, or doing. Criteria may be imagining and building something entirely new; Advancing a well-defined field in an unexpected way; or combining previously separate endeavors with surprising and original verifiable results.

### **Power and its different Forms**

financial political physical, emotional,

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On Mon, Nov 8, 2010 at 4:38 PM, Al seckel <██████████> wrote:

Ok, I have given some more thought to the various targets projects (there is no committment implied for funding). It is not overbroad. It is targeted. As I said, I reworked your stream of consciousness into something that is real and workable. I have also tried to get inside your head and add some new fruitful lines, which you may have forgot to add. I am weakest on the economic side, as this is not my area. AI, quantum computing, theoretical physics and mathematics, cognitive neuroscience, origin of life, are issues I have been keenly interested in over the years, and was able to make some sense here. As time goes on, one can add more specifics, but this is not an X-PRIZE approach, and people in the field should understand what I am looking for. I wanted to reduce the din of cranks and junk science. People will have to go through an application process, which will not only protect you, but also make sure that you can look through these proposals at your own leisure and see what is worthwhile. Even though we will ask for a page for them to write up their proposal, etc., you will be able to tell within the first 250 words whether it makes any sense or not. We need to get this up asap. Again, it implies or guarantees nothing, but it will look very good out there.

Your thoughts.

Please format correctly:

## **Artificial Intelligence and Computational Science**

Specific attention will be given to robust original research proposals in the following areas:

Building an "intelligent" machine, as opposed to a "competent" machine.

Creating new approaches to programming or computational models, which allow for the internal self-revision of new situations.

Creation of new computational models that support the integration of multiple viewpoints on a design, which support the integration of redundant pieces and subsystems, which solve problems in multiple ways.

Development of new computational models that will accurately check complex mathematical theorems and proofs.

Better search algorithms for mathematical knowledge.

Membrane computing as it applies to new computational models based on cellular membranes or other biological systems.

Evolution of signal and signal processing

Wavelet and coding theory as it relates to data and computation

Category theory, especially as it relates to computer programming language semantics

Improved Random Number Generators

Application of Elliptical Curve Cryptography

Public-Key cryptography

Quantum cryptography

Code Breaking

Viruses

## **Astrobiology**

Specific attention will be given to robust original research proposals in the following areas\*:

Forms of synthetic life

Origin of life

Evidence of pre-biotic life

Non-carbon based forms of life

Pre-life as replication of signals

Extremophiles

Please note that submissions about extraterrestrial UFOs, aliens encounters, alien pregnancies, crop circles, and other such nonsense, will not be entertained. [small font]

### **Cognitive Neuroscience:**

Specific attention will be given to robust original research proposals in the following areas:

Computational neuroscience, e.g., biologically informed models of memory and learning

Mirror neurons

Pattern recognition

Musical imagery

Music as language

Neural feedback loops

Neural correlates of visual or other sensory illusions

Functional magnetic resonance imaging

Positron emission tomography

Transcranial magnetic stimulation

## **Economics**

Specific attention will be given to robust original research proposals in the following areas:

New financial systems

Friction of transactions

## **Language**

Specific attention will be given to robust original research proposals in the following areas:

How did language arise in humans?

How does language develop in individual humans?

How do phonological representations arise in natural intelligence?

The relation between signals and symbolic representations in the phonological component of language.

## **Medical**

Specific attention will be given to robust original research proposals in the following areas:

Stem cell research

New approaches in cancer research

Placebo effect

Psychopharmacology

## **Molecular Biology**

Specific attention will be given to robust original research proposals in the following areas:

Junk DNA

Biotechnology

Gene fabrication

## **Quantitative Social Analysis**

Specific attention will be given to robust original research proposals in the following areas:

Random graph theory, and how it applies to social networks

The derivation or origin of the behavior of Pareto, Zipf, and other power laws, and why power laws appear to apply broadly in the hard and social sciences

Prisoner's dilemma and iterated prisoner's dilemma, and its relation to real-life examples

Ultimatum game and its relation to social behavior

## **Quantum Information Science**

Specific attention will be given to robust original research proposals in the following areas:

Quantum computing

Quantum information theory

Massive entanglement and decoherence

Stability-decoherence problem

Macroscopic quantum physics

Quantum parallelism

Quantum computing photosynthesis

Quantum cryptography

## **Theoretical Mathematics**

Specific attention will be given to robust original research proposals in the following areas:

Algebraic topology, and the theory of special types of manifolds in various dimensions

Category theory, especially as it relates to computer programming language semantics

Lie groups and Lie algebra in coding theory

Knot theory

Geometric Langlands theory

Infinite dimensional Lie algebras

Automorphic functions

## **Theoretical Physics**

Specific attention will be given to robust original research proposals in the following areas:

Finding applications of Anti de Sitter space and conformal field theory to other areas of physics, such as nuclear physics, condensed matter physics, cold atom physics, high temperature superconductors, in terms of the physics of black holes in four dimensions, and the physics of black holes in five dimensions.

Relationship of string theory to the very early universe, with testable predictions, such as large cosmic strings, gravity waves generated early in the Big Bang, string theory alternatives to the inflationary universe, Big Bang, etc.

Fruitful new approaches utilizing Geometric Langlands Program with quantum field theory and string theory.

New sources of energy or economically viable ways of transforming one form of energy into another.

## **Scientific Pioneers and Geniuses**

These individuals must display an exceptional creativity and inventiveness in his or her way of work, offering a decidedly new and

scientifically verifiable way of thinking, imagining, or doing. Criteria may be imagining and building something entirely new; Advancing a well-defined field in an unexpected way; or combining previously separate endeavors with surprising and original verifiable results.

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