

# **Public Written Comments**

**Submitted to PCAST**  
**July 16, 2013 to September 9, 2013**

As specified in the Federal Register Notice, because PCAST operates under the Federal Advisory Committee Act (FACA), all public comments and/or presentations will be treated as public documents and will be made available for public inspection, including being posted on the PCAST website.

## For Recharge Economy, Innovation

**From:** "Makoto Yanase" [REDACTED]  
**Date:** Tue, July 16, 2013 11:25 pm  
**To:** pcast@ostp.gov

**ENERGY, ECONOMY, ENVIRONMENT & SECURITY(Defense)**.....Based on Money(Budget). God keep us huge amount of budget since 67 years before. This is proposal for long-run **INNOVATION**. I developed special gadget for find huge value commodities. I used almost 17 years for training my gadget and find many kinds of science mechanism actions.

**Climate change, Cyber attack, Terrorist**.....21 century, there are different kind of economy damaged. Sea level rise, Ozone hole wider, CO2, Earth become HOT. Our EARTH is heavy sick now. How can create clear(clean) our Earth for future?

**Cyber attack**...They want to destroy world network, then Hacking data? This is WAR. Destroy Economy, peoples life. Only they want to control world. This is more than terrorist. Crush computer system, crush communications. Solution are **Science, Innovation, Technology**. Of course, needs to spend a lot of budget. There are many kinds of situations now. How can growth economy? always counter different damages. There are no time to waiting innovation growth, Technology growth. **Just Find Sure CAPITAL**.

**Challenge**.....**Each people has different type of challenge. this is right information**. I want to joint US government. Because, I believe no country able to proceed. Only USA. I attached 1 e-mail(offer, proposal), and 3 type of drawings (3pages each). So **please open attached ones(proposal)**, then quickly response my e-mail. I have complete proposal now. I want to discuss about my offer.

**Finally**.....To be frank, if I'm thinking MONEY, MYSELF. I never doing kind of risk. Better I contact easy way. There are so many way here. Actually, my mind change **March 11, 2011 Japan Earthquake also Tsunami**. More than 20000 peoples were dead. USA history also so many soldiers were dead. Because Defense, Security, Patriot. How can cover those all of expenses only Tax, innovation? How can cover all of world? USA are target of terrorist. **NO.1 STRATEGY is FIND CAPITAL. USA never become loser**. This is time ti plan future of our Earth. Time to do action now. Every country has different mind and plan.

Makoto

**USA never become position NO.2 every categories. ECONOMY, MILITARY, TECHNOLOGY, SCIENCE..evrything.** Only 224years, USA always NO.1. World peace depends on USA. World Economy Depends on USA. But now, balance of the world become decline. Especially, Asia some country become monster. Especially military. That's why, it's so risky reduce National budget. For my opinion, money able to buy technology, innovation. Even weapon, even scientist. So money is the base on everything. Find sure CAPITAL. That's National Security. Most important for future.

---

**Science, maybe able to save our EARTH.** Climate Change( Hurricane, Tornado), Earth Temperature up, Sea level up. Our EARTH is sick now. Which country are able to save? Peoples live in the EARTH, Sick of EARTH become heavy. Because, develop, gas, chemicals.....etc.

**Science, maybe able to innovation new energy.** Some of Middle East OIL producer country oil stocks bottom alrely. Probably, hard to save that country. Maybe, become war? Someday every producer countries will be empty stocks. How to survive future of Energy? USA is NO.1 OIL consumer country in the world. Probably, new technology(Science) will be save. Innovation save future. Use budget for future of all of the world. GET CAPITAL.

**This is proposal find CAPITAL for future of our EARTH, also Recharge US economic engine.** I produce US government for gain US budget (science, innovation, Recharge Economy, also strong Defense).

---

**(1)Target.....**Find Most valuable materials in the world. (I'm specialist for find value commodities also special Locator developer). I detect only GOLD BARS(WW2). Those are hide materials, then only Philippines in the world. Those are hard to find this time. Every countries needs long-run economic growth and strong Defense.

**(2)Attach(1)-(3) files**

**(1) Attach1(3pages)..... FIND SURE CAPITAL(for Recharge economic growth USA, etc)**

(1)Deal my technique(know-how) for Detect commodities.

(2)Operation my existing site(final stage now)..UNDER US GOVERNMENT.

**(2)Attach2(3pages).....Functions of gadget(Developed my gadget)**

(1)Detect size of commodities(locator head, cutting GOLD BARS form)

(2)Detect size of box, line up(volumes).

(3)Detect many kinds of magnetic fields, then destroy many irregular fields..

(4)Pointing exact location of deposit. Etc.

**(3)Attach3(3pages).....Existing operation**

(1) Area ..... Rizal province( border of Metro Manila , Philippines)

(2)Conditions.....120FT (40M) deep final stage(confidential operation)

(3)Volume.....5000 TO 10000 TONS (minimum, exactly more)

(4)Value..... 250-500 BUS\$ /AREA(MORE) (minimum)  
(April10,2013... 1575 US\$/troy ounce)

(5)Verify.....Any time able to inspection. There are several area listed already. Need to discussion about that.

ONLY US GOVERNMENT.

---

I'm Japanese man from Philippines. This offer will be long-run growth US economy also saving for future. I want to deal partnership with US government. This is science, technical skill and abilities. I want to use my potentials and experiences. This country is Philippines. But, origin those commodities are not this country own. Story from WW2. But definitely those value are huge. Surely help long-run economy growth any country. Most important is use for good way. How can clean EARTH except budget? I trained almost 17years and find all of know-how of mechanism. I want to joint Democratic leader country. So I contact USA. Then I believe US government use for good way. I hate Communist country

also Muslim country in person. Because situation of world now. How about China, North Korea, Middle east. National Budget always increase, hard to reduce. Any countries needs budget. It's so hard to maintain clean EARTH for future. Get huge CAPITAL ,then use for future.

My situation is not easy now. So please move quickly. Please help advice or assist to me. Today, I send with attached. Please check attached ones. Please response to my e-mail, immediately.

Makoto

# Attach1- (1)

## RECHARGE ECONOMIC NEW ENGINE

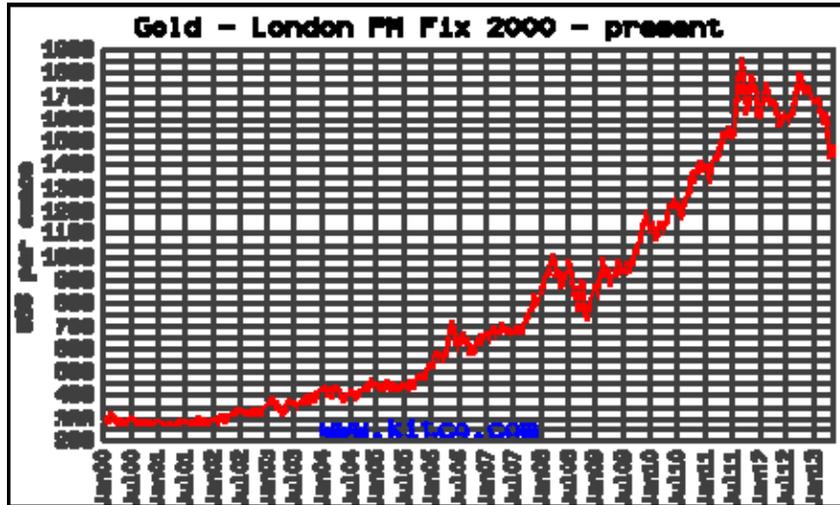
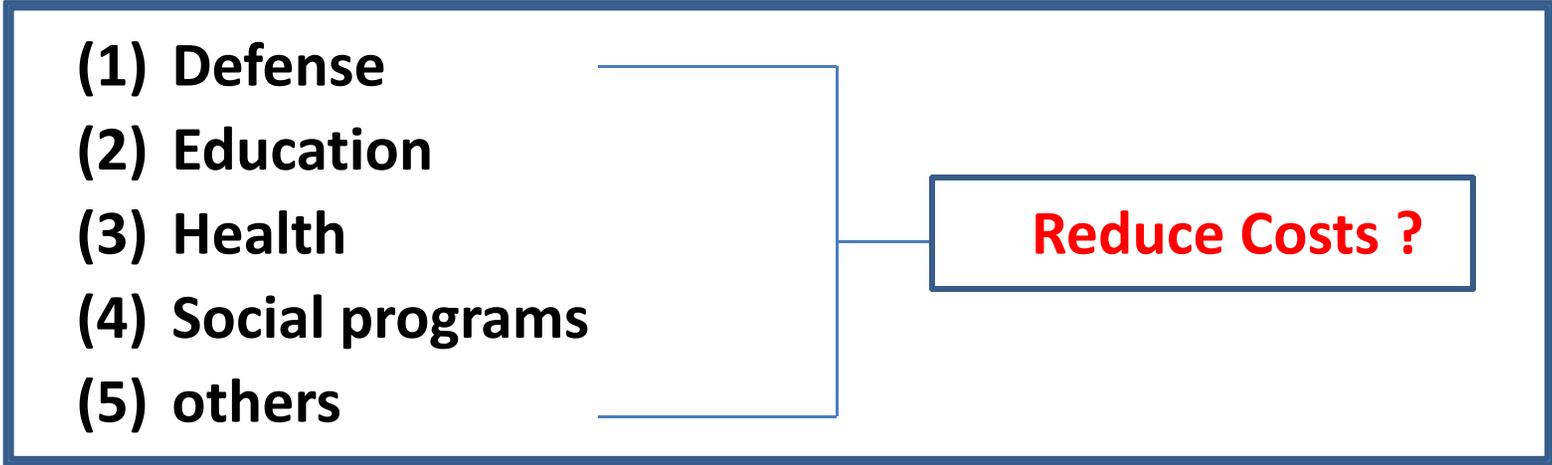
- (1) Innovation business..... No final, continue searching.  
(performance cost , kinds of risk )
- (2) Defense..... Reduce cost  
(risk for USA, also relation countries)
- (3) National Security, etc....
  - (1)Terrorism
  - (2)Energy
  - (3)Climate Change
  - (4)Costs
    - (1)Medical
    - (2)Nature(Hurricane, Tornado, etc)
    - (3)Emergency , etc.
- (4) Education
- (5) **Infrastructure Development**
- (6) **Investments, Manufacturing**



**FIND CAPITAL**  
Natural Resources(Best thing)

# Attach1- (2)

# Economy vs Costs



## Top military spenders

### China's military spending (US\$ billion)



### World's top military spenders, 2011 (US\$ billion)



\*Based on budgeted figures. \*\*Based on projected figures.

Source: Stockholm International Peace Research Institute, Global Security

## Attach1- (3)

# Find Most Valuable Materials

**(1)GOLD value increase every year**

(1) 2003 January 356.86 US\$ ounce

(2) 2008 January 889.60 US\$ ounce

(3) 2013 January **1670.95** US\$ ounce

**(2)GOLD is based on Economy always.**

**(3)GOLD is the best materials in the world**

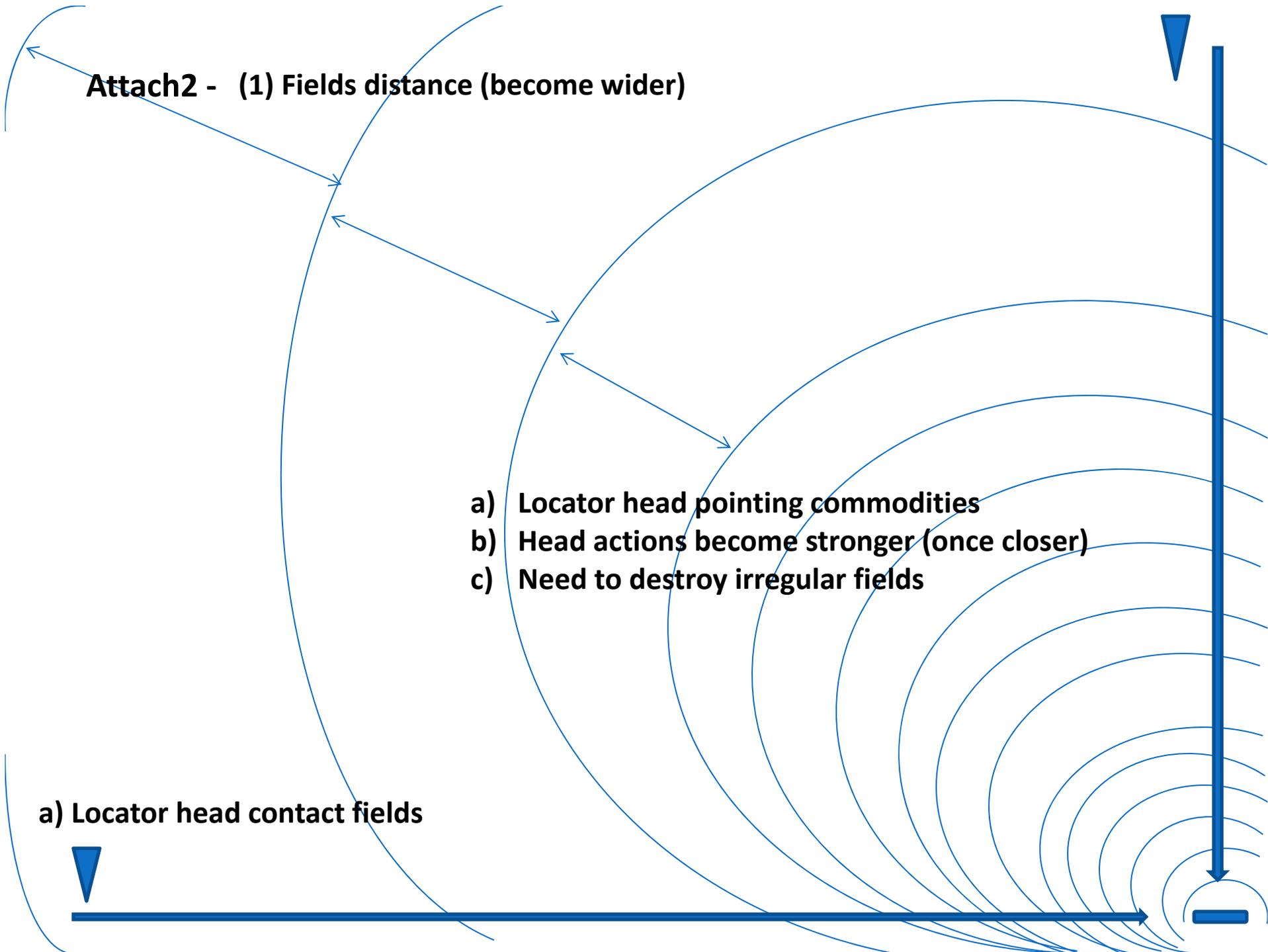


**(Proceed innovation)**

**OIL, Low cost** → **CAPITAL** ← **GOLD**



**GOLD is the most Powerful Recharge New Engine**

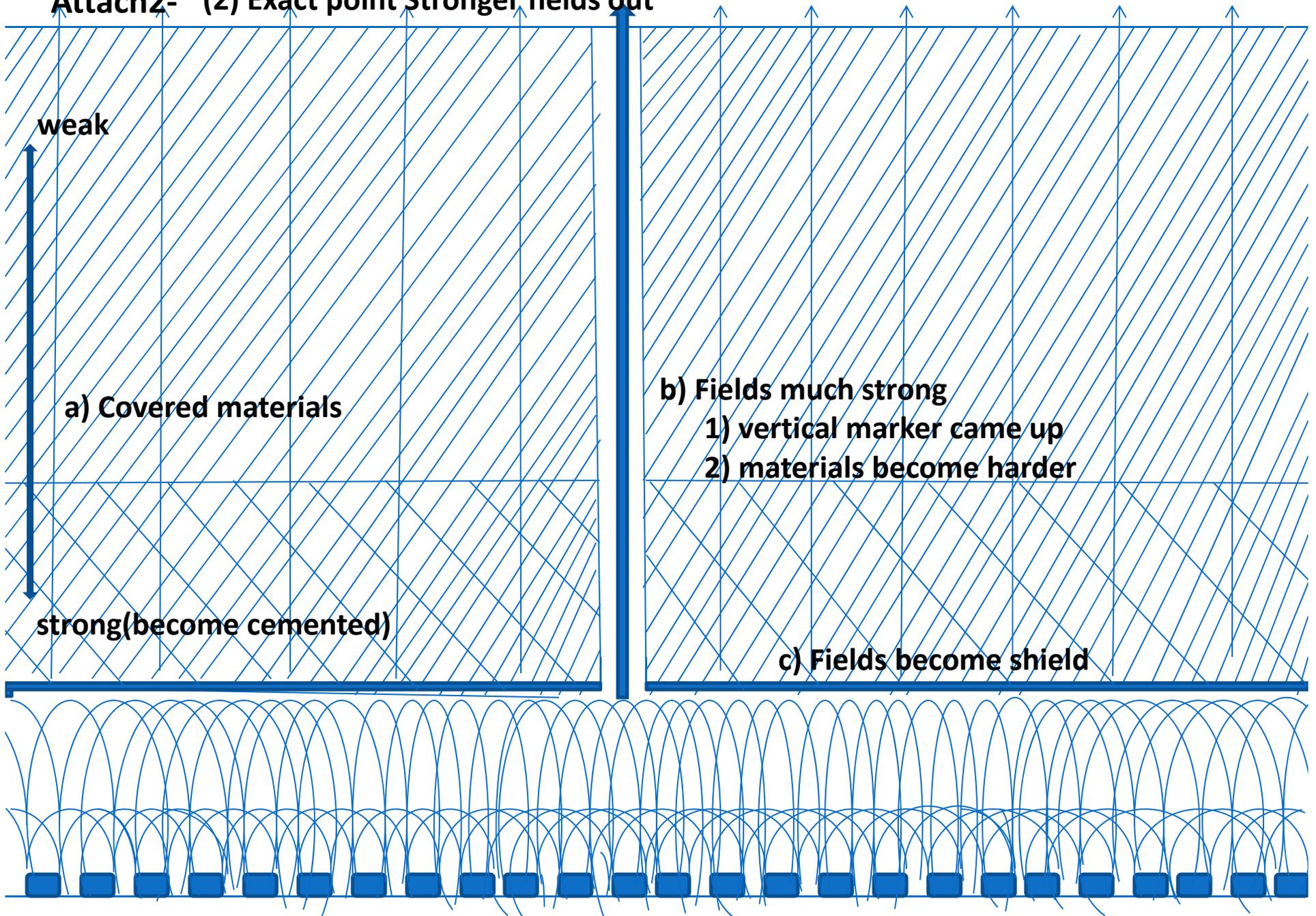


**Attach2 - (1) Fields distance (become wider)**

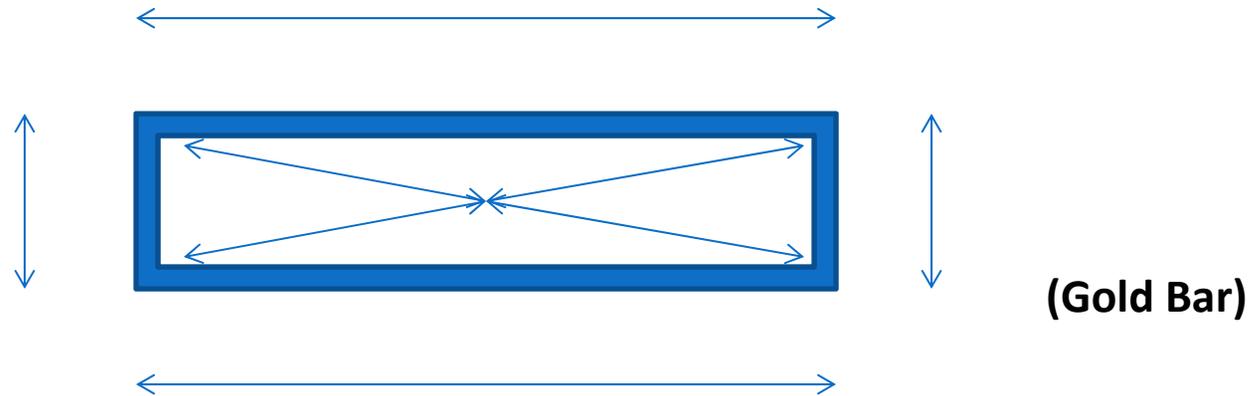
- a) Locator head pointing commodities**
- b) Head actions become stronger (once closer)**
- c) Need to destroy irregular fields**

**a) Locator head contact fields**

## Attach2- (2) Exact point Stronger fields out

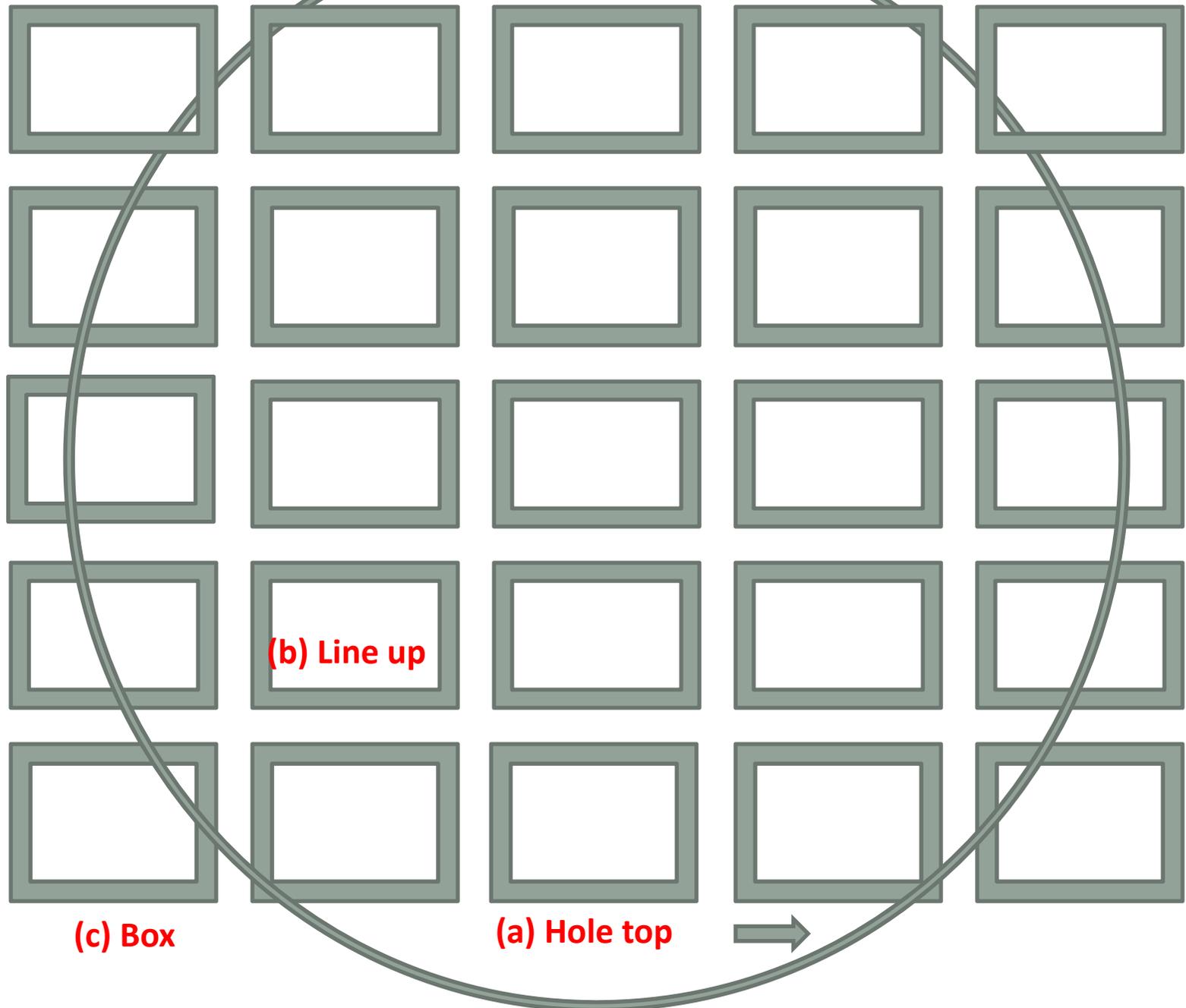


## Attach2 - (3) Locator Action

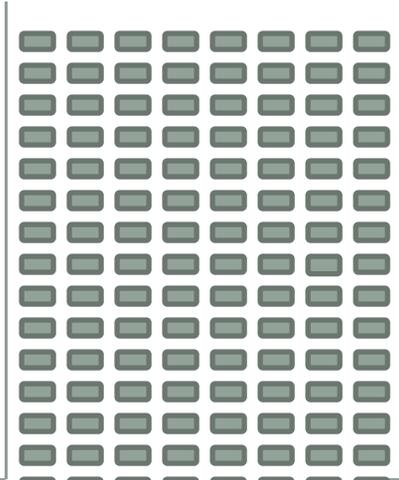


- a) Head cutting size
- b) Head stop corner and center.
- c) Head actions become changing
- d) Head cutting box also line up
- e) Etc.

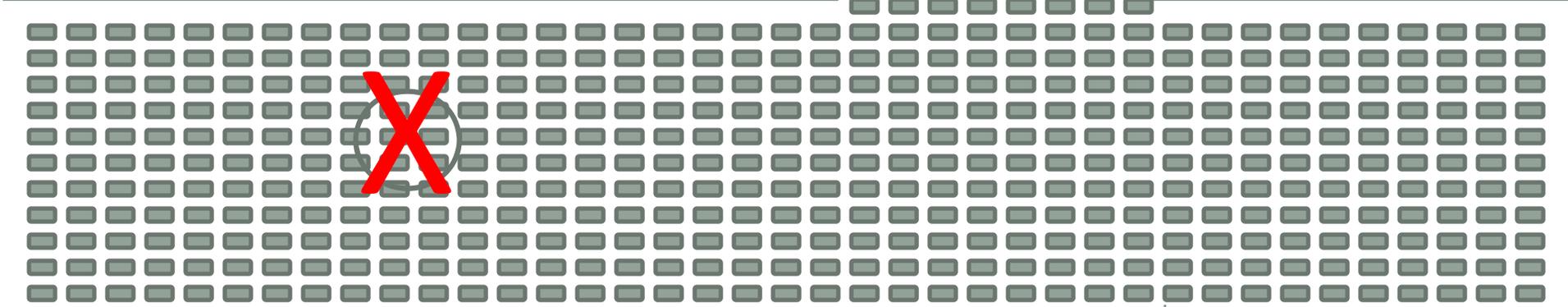
# Attach3- (1) SITE VIEW (Operation Hole)



**Attach3 - (2) LOCATION (SITE)**



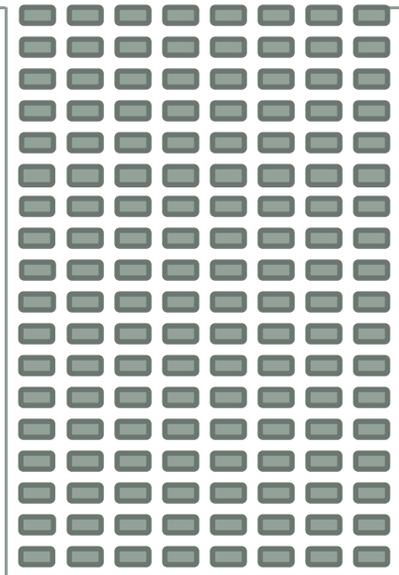
(a) Line up boxes



(b) Operation hole(existing hole)

(1)120ft(40m)deep

(2)Final stage now



**Attach3 - (3)LOCATION SITE(PICTURES)**

**(1)Operation house**



**(2)Operation hole**



## An unfortunate reality

**From:** "Kevin Nelson" <[REDACTED]>  
**Date:** Thu, July 18, 2013 12:10 pm  
**To:** pcast@ostp.gov

Hello Reader,

There is an interesting duality between individual success and the progress of society as a whole. The concept of "Fairness" and our intentions to make educational opportunity available to everyone has led us to a system where it is typical to have a handful of valedictorians and throngs of people beating public testing.

If we want our graduates to be smarter we need to make things more difficult, accept the fact that the statistics won't look as glamorous and know that the challenge provides the healthy stress that develops people in to quicker more capable thinkers with the intelligence to stand strong as pillars supporting our society and respected members of the community.

Vanity Is dictating the educational system, students seem disinterested in learning and obsessed with glamorizing their intellectual image.

If we continue to conscribe our youth to a system where they are told they can't do better they won't.

## Biotech growth in MD

**From:** "stephanie davis" [REDACTED]  
**Date:** Sun, July 21, 2013 2:47 pm  
**To:** "pcast@ostp.gov" <pcast@ostp.gov>

From: Prof Steph Davis MS  
Neocell Biotech/BCCC

Hello. Innovation and economic growth is needed in many urban areas. As a STEM educator/ scientist in Baltimore, new programs for seed capital, advisement needs to

be set up.

I hope to attend a meeting in the near future.

[REDACTED]



>develops and integrates knowledge and practice to advance human  
>dignity. It was founded by Harold Lasswell, Myres McDougal, and  
>their associates in 1948 in New Haven, CT. Further information about  
>the Policy Sciences Center and its projects, Society, and journal is  
>available at [www.policysciences.org](http://www.policysciences.org).]

# THE POLICY SCIENCES CENTER, INC.

Project Director: DR. LLOYD ETHEREDGE

July 25, 2013

Dr. AnnaLee Saxenian, Chair  
Social, Behavioral, and Economic Sciences Advisory Committee  
National Science Foundation  
c/o Office of the Dean  
Univ. of CA, Berkeley - School of Information

**Re: The Trayvon Martin Case, President Obama's Leadership, and Removing NSF Restrictions**

Dear Dr. Saxenian and Colleagues:

President Obama has suggested that our nation engage in soul searching and a new, serious dialogue in the light of Trayvon Martin's unnecessary death and its social circumstances. To support this goal, I ask that you revisit efforts to change the National Science Foundation's policies and, in the interest of evidence-based dialogues, restore academic independence and freedom to engage these issues.

I raised these concerns, several years ago, citing two cases of NSF's unwritten policy to prohibit social science research concerning racism and its effects. The rule was cited by NSF's current Assistant Director (SBE) to dissuade potentially transformative studies of the neuroscience and societal effects of hierarchical psychology: efforts by your committee and professional associations could not secure a written, public statement of NSF's restrictive rule, the legal authority on which it was based, and the accountable public officials who made and interpreted the rule and its wide application. Thus it has not been possible to engage the democratic process, or a clear pathway for legal due process, to change these restrictions on the civic role of universities, institutions that are a source of independent and evidence-based dialogue to explore and understand the societal issues raised by Trayvon Martin's death. Most thoughtful Americans probably still believe that the disengagement of our universities from continuing studies of racism and its effects has resulted from a process of independent peer review of NSF applications judged for their Scientific Merit, decisions whose integrity and independence are guaranteed by our nation's scientists and its advisory bodies.

The Policy Sciences Center Inc. is a public foundation.

The Center was founded in 1948 by Myres S. McDougal, Harold D. Lasswell, and George Dession in New Haven, CT

URL: <http://www.policyscience.net>

### A Decision by the National Science Board

I request that your Committee take these issues directly to the National Science Board. They have ultimate legal, ethical, and public accountability for NSF policies and oversight. If NSF officials have exceeded their legal authority by 1.) imposing biases and restrictions on the independence and freedom of scientific research in such essential areas of concern to many Americans, and 2.) without written disclosure to Congress, the public, the news media, professional societies, NSF applicants, or Trustees and other responsible officials of our nation's universities, then the National Science Board also has its own independent legal counsel and the right (and duty) to refer serious violations of law to the Department of Justice. [It also is possible, in the University of Michigan case that I brought to your attention, that duress has been used by NSF officials to dissuade unwanted applications and that reparations should be paid.]

### Timely Action and Accountability

I request that your Committee seek the immediate withdrawal of NSF's restrictive policies and a full public disclosure of the unwritten rules, their history, their legal authority, and the officials accountable. The National Science Board and its professional staff have been aware of these concerns: I suggest that your Committee request action within ten days. If a fully satisfactory response is not possible, I suggest a joint, and public, letter from your Committee and the Presidents of our leading professional and scientific societies.

As you know, the National Science Foundation - although using the legitimating language of our legal system ("independent peer review") has evolved to operate with higher levels of review and decision making, and by criteria that are not fully disclosed in writing to academic applicants or the public. Their pre-Runnymede system allows government officials and employees to make all final NSF decisions involving scientific research and, also, to know and rule on the future applications and research programs of known NSF critics, both individuals and institutions. These closed and unappealable processes create duress, the potential for abuse of power, and inhibit the full, public expression of legitimate criticism and democratic rights. By addressing the Trayvon Martin case I hope that you can, also in his memory, effect wider, corrective changes.

Yours truly,



Dr. Lloyd S. Etheredge, Director  
Government Learning Project

cc: Advisory Committee Members (Achen, Bollen, Cacioppo, Cutter, DeFries, Denham, Gernsbacher, Harrington, Higginbotham, Hoynes, Fealing, Jablonski, Kaplan, Krosnick, Landau, Moran, Morris, Olds, Ong, Presser, Ruggles)

## PCAST: Big Data, the Primate Subordination Syndrome, and a Potential Medical and Societal Breakthrough

**From:** "Lloyd Etheredge" <[REDACTED]>  
**Date:** Mon, August 12, 2013 10:09 pm  
**To:** "Dr. John Holdren - Science Adviser to President Obama and Co-Chair, PCAST" <[REDACTED]>  
**Cc:** "Dr. Rosina Bierbaum - PCAST" <[REDACTED]>

Dear PCAST Co-Chairs and Members:

Concerning a scientific breakthrough affecting our understanding of how society functions, and for the pharmaceutical industry, you might be interested in the enclosed discussion of a new theory in neuroscience building on the emerging and updated evidence reviewed by Moises Velasquez-Manoff, "Status and Stress" in *The New York Times* (July 27, 2013). I write because your assistance and leadership are needed to organize testing for this new theory of a Primate Subordination Syndrome.

- The effects of status on health, for which Sir Michael Marmot was knighted in the UK, now appear to be universal, to exist even in advanced industrial economies when there is equal access to modern health care, and to persist even when other major determinants (e.g., differences in smoking) are controlled. It may be possible for the pharmaceutical industry to add several years of life, and improved health status, for Black and other lower status populations in the US and other countries, without changing real-world conditions (however desirable that also may be). A wide range of reversible effects on social, economic, and political participation and educational attainment affecting lower status populations in the US and other countries may be produced as part of a subordination syndrome and unrecognized mechanisms clarified by a new theory.

### **A Potential Breakthrough by the Pharmaceutical Industry: A Global Market and Cross-Disease Benefits**

The new theory of a **Primate Subordination Syndrome** suggests a major breakthrough for the pharmaceutical industry as soon as the brain mechanisms and activated pathways are established with precision. [There is exciting experimental evidence with primates, included in the Velasquez-Manoff discussion, that the **Primate Subordination Syndrome** is reversible. The operative mechanisms appear to be social/psychological rather than, for example, access to more nutritious food.] Discrimination is ubiquitous and if a small pill, linked to individual genetic characteristics, can increase resilience, or interrupt a pathway to facilitate healing, the market would be global. This line of research for drug development is a potential game-changing investment, with a universal, or almost-universal, beneficial impact across many of the major diseases.

### **PCAST, Grand Strategy, and Big Data Investments**

The **Primate Subordination Syndrome** model predicts that new clues for a pharmaceutical breakthrough can be found via neuroscience research and pathways activated by hierarchical psychology/drama and linked to the visual cortex. Thus, the speed of learning by the pharmaceutical industry may be helped by the rapid expansion of NIH Collaboratory and related genetic/EHR databases to include these neuroscience, social, and psychological variables.

PCAST's oversight and leadership will be needed to build this capability. The enclosed correspondence discusses an unexpected Too Hot to Handle problem at NSF: Initiatives to build new, NIH-linked Big Data systems via NSF social sciences have encountered a serious, time-wasting, barrier. The American politics field at NSF was recently zeroed-out and there is a degree of bureaucratic caution, for other reasons, about a hypothesis that some people apparently perceive as a bit bold, politically.

Evaluating this new theory is important. Can you help?

Yours truly,  
Lloyd Etheredge

Dr. Lloyd S. Etheredge - Project Director  
Policy Sciences Center Inc.



[The Policy Sciences Center, Inc. is a public foundation that develops and integrates knowledge and practice to advance human dignity. It was founded by Harold Lasswell, Myres McDougal, and their associates in 1948 in New Haven, CT. Further information about the Policy Sciences Center and its projects, Society, and journal is available at [www.policysciences.org](http://www.policysciences.org).]

# THE POLICY SCIENCES CENTER, INC.

Project Director: DR. LLOYD ETHEREDGE

August 6, 2013

President Jane Mansbridge, President-elect John Aldrich  
American Political Science Association

Re: A New and Better Strategy

Dear Dr. Mansbridge, President-elect Aldrich, and Council Members:

We are on the cusp of a transformation in our understanding of how society operates. A better future can be created more quickly than is being discussed in our political process.

I write to ask that APSA supply political courage, self-confidence, and leadership. To improve APSA's marginal lobbying effectiveness, a first step is to re-start the historic (and courageous) Honest Broker role for the social sciences. The social sciences should now move aggressively to question, test, and (if the evidence justifies the conclusion) disprove and discredit the truth claims of the Republican Party. If Republican ideas are wrong - for example, Governor Romney's bold claim that an induced Dependency syndrome erodes the personality, motivation, and willingness to take responsibility for their lives of 47% of Americans, perpetuates our unsolved social, educational, and economic problems, and explains the electoral success of the Democratic Party - it is the job of scientists and in the public interest to learn about Republican misperceptions as quickly as possible.

Also, the increasing boldness of Republican attacks against social science, and last year's truly scary defunding of the American politics field, merit, at a minimum, a "tit-for-tat" response.

In this fight, neuroscience methods and discoveries are a game-changer. For example, the new theory of a Primate Subordination Syndrome (outlined in the enclosed discussion) is a theoretical development in the study of power that will strengthen the social sciences and transform thinking about public policy. [Pieces of the picture are reviewed in the enclosed "Status and Stress" by Moises Velasquez-Manoff in The New York Times of July 27, 2013.] The Primate Subordination Syndrome theory *also* predicts that key Republican Party views are a misinterpretation. I proposed this new, connect-the-dots theory and I would like to see it tested: NSF's imposed inhibitions and a fear of controversy make this unlikely unless political courage, and rallying the troops to take the fight to the enemy, comes from scientists.<sup>1 2</sup>

The Policy Sciences Center Inc. is a public foundation.

The Center was founded in 1948 by Myres S. McDougal, Harold D. Lasswell, and George Dession in New Haven, CT

URL: <http://www.policyscience.net>

The well-funded Republican Attack Machine howls that NSF social science will support liberal activism. However the Primate Subordination Syndrome - although it might prove that the thinking of Republicans is a misinterpretation - does not imply that traditional liberals and Democrats have the right answers.<sup>3</sup> The conclusion is likely to be that we should think further.<sup>4</sup>

The benefits can be amazing.

Yours truly,



Dr. Lloyd S. Etheredge

cc: APSA Council

Enclosures: Moises Velasquez-Manoff, "Status and Stress," The New York Times, July 27, 2013. LSE, Email to NIH planners re a Primate Subordination Syndrome, 1/31/2013.

#### Notes

1. A new class of hierarchical psychology models complement, and improve the empathy and predictive power of, other models in the profession. A top-down, modern model of hierarchical drama, power, and *hubris* in international relations was presented in Can Governments Learn? (Pergamon Press, 1984): The hierarchical model correctly predicted features of the non-learning Republican baseline in (Bush-Cheney) foreign policy and mistakes in Iraq, characteristic misperceptions, and characteristic dysfunctions of the policy process. A set of "upward" hierarchical psychology models that improve empathy and explain ideological logic and added (puzzling) resistance to more scientific kinds of evidence is available in "Wisdom and Public Policy" in Sternberg and Jordan (Eds.) A Handbook of Wisdom: Psychological Perspectives (Cambridge UP, 2005) at pp. 312-314 and in articles (e.g., "President Reagan's Counseling") and working papers online at [www.policyscience.net](http://www.policyscience.net).

2. The purchase of the Washington Post by Jeff Bezos may increase resources for fresh thinking, cognitive diversity, and evidence-based research about American politics and public policy.

3. Thirty+ years ago I proposed to NSF, in the Lasswell-Campbell tradition, a rapid learning design, using the model of the Michelson-Morley experiment in physics, to evaluate a full set of competing partisan and ideological truth claims. We would be further along, as scientists and as a nation, if the vision had been accepted. (There is a backlog of many ideas that should be part of a Grand Strategy for rapid learning.) It is possible, if APSA fights back effectively, that some Presidents of leading colleges and universities will bestir themselves and also take a public stand to support rapid learning and evidence-based thinking v. ignorance.

4. Senator Tom Coburn, who introduced legislation to end NSF funding of the American politics field and social science, is a MD and a capable, serious man. Our profession's bold, well-organized, and rigorous counter-attack, if it is honest science and grounded intelligently in leading-edge neuroscience and biomedical research, will earn his respect. Due to NSF's secrecy Senator Coburn, and other Republicans, may believe that a thirty-year+ failure of the American politics field to test the Reagan-Romney model is a liberal conspiracy.

JULY 27, 2013, 2:30 PM. New York Times.

## **Status and Stress**

By MOISES VELASQUEZ-MANOFF

Although professionals may bemoan their long work hours and high-pressure careers, really, there's stress, and then there's Stress with a capital "S." The former can be considered a manageable if unpleasant part of life; in the right amount, it may even strengthen one's mettle. The latter kills.

What's the difference? Scientists have settled on an oddly subjective explanation: the more helpless one feels when facing a given stressor, they argue, the more toxic that stressor's effects. That sense of control tends to decline as one descends the socioeconomic ladder, with potentially grave consequences. Those on the bottom are more than three times as likely to die prematurely as those at the top. They're also more likely to suffer from depression, heart disease and diabetes. Perhaps most devastating, the stress of poverty early in life can have consequences that last into adulthood.

Even those who later ascend economically may show persistent effects of early-life hardship. Scientists find them more prone to illness than those who were never poor. Becoming more affluent may lower the risk of disease by lessening the sense of helplessness and allowing greater access to healthful resources like exercise, more nutritious foods and greater social support; people are not absolutely condemned by their upbringing. But the effects of early-life stress also seem to linger, unfavorably molding our nervous systems and possibly even accelerating the rate at which we age.

The British epidemiologist Michael Marmot calls the phenomenon "status syndrome." He's studied British civil servants who work in a rigid hierarchy for decades, and found that accounting for the usual suspects — smoking, diet and access to health care — won't completely abolish the effect. There's a direct relationship among health, well-being and one's place in the greater scheme. "The higher you are in the social hierarchy," he says, "the better your health."

Dr. Marmot blames a particular type of stress. It's not necessarily the strain of a chief executive facing a lengthy to-do list, or a well-to-do parent's agonizing over a child's prospects of acceptance to an elite school. Unlike those of lower rank, both the C.E.O. and the anxious parent have resources with which to address the problem. By definition, the poor have far fewer.

So the stress that kills, Dr. Marmot and others argue, is characterized by a lack of a sense of control over one's fate. Psychologists who study animals call one result of this type of strain "learned helplessness."

How they induce it is instructive. Indiscriminate electric shocks will send an animal into a kind of depression, blunting its ability to learn and remember. But if the animal has some control over how long the shocks last, it remains resilient. Pain and unpleasantness matter less than having some control over their duration.

Biologists explain the particulars as a fight-or-flight response — adrenaline pumping, heart rate elevated, blood pressure increased — that continues indefinitely. This reaction is necessary for escaping from lions, bears and muggers, but when activated chronically it wears the body ragged. And it's especially unhealthy for children, whose nervous systems are, by evolutionary design, malleable.

Scientists can, in fact, see the imprint of early-life stress decades later: there are more markers of inflammation in those who have experienced such hardship. Chronic inflammation increases the risk of degenerative diseases like heart disease and diabetes. Indeed, telomeres — the tips of our chromosomes — appear to be shorter among those who have experienced early-life adversity, which might be an indicator of accelerated aging. And scientists have found links, independent of current income, between early-life poverty and a higher risk of heart disease, high blood pressure and arthritis in adulthood.

"Early-life stress and the scar tissue that it leaves, with every passing bit of aging, gets harder and harder to reverse," says Robert Sapolsky, a neurobiologist at Stanford. "You're never out of luck in terms of interventions, but the longer you wait, the more work you've got on your hands."

This research has cast new light on racial differences in longevity. In the United States, whites live longer on average by about five years than African-Americans. But a 2012 study by a Princeton researcher calculated that socioeconomic and demographic factors, not genetics, accounted for 70 to 80 percent of that difference. The single greatest contributor was income, which explained more than half the disparity. Other studies, meanwhile, suggest that the subjective experience of racism by African-Americans — a major stressor — appears to have effects on health. Reports of discrimination correlate with visceral fat accumulation in women, which increases the risk of metabolic syndrome (and thus the risk of heart disease and diabetes).

In men, they correlate with high blood pressure and cardiovascular disease.

Race aside, Bruce McEwen, a neuroscientist at Rockefeller University in New York, describes these relationships as one way that “poverty gets under the skin.” He and others talk about the “biological embedding” of social status. Your parents’ social standing and your stress level during early life change how your brain and body work, affecting your vulnerability to degenerative disease decades later. They may even alter your vulnerability to infection. In one study, scientists at Carnegie Mellon exposed volunteers to a common cold virus. Those who’d grown up poorer (measured by parental homeownership) not only resisted the virus less effectively, but also suffered more severe cold symptoms.

Peter Gianaros, a neuroscientist at the University of Pittsburgh, is interested in heart disease. He found that college students who viewed their parents as having low social status reacted more strongly to images of angry faces, as measured by the reactivity of the amygdala — an almond-shaped area of the brain that coordinates the fear response. Over a lifetime, he suspects, a harder, faster response to threats may contribute to the formation of arterial plaques. Dr. Gianaros also found that, among a group of 48 women followed for about 20 years, higher reports of stress correlated with a reduction in the volume of the hippocampus, a brain region important for learning and memory. In animals, chronic stress shrinks this area, and also hinders the ability to learn.

These associations raise profound questions about stress’s role in hindering life achievement. Educational attainment and school performance have long been linked to socioeconomic class, and a divergence in skills is evident quite early in life. One oft-cited study suggests that 3-year-olds from professional families have more than twice the vocabulary of children from families on welfare. The disparity may stem in part from different intensities of parental stimulation; poorer parents may simply speak less with their children.

But Martha Farah, a neuroscientist at the University of Pennsylvania, has also noted differences not just in the words absorbed but in the abilities that may help youngsters learn. Among children, she’s found, socioeconomic status correlates with the ability to pay attention and ignore distractions. Others have observed differences in the function of the prefrontal cortex, a region associated with planning and self-control, in poorer children.

“You don’t need a neuroscientist to tell you that less stress, more education, more support of all types for young families are needed,” Dr. Farah told me in an e-mail. “But seeing an image of

the brain with specific regions highlighted where financial disadvantage results in less growth reframes the problems of childhood poverty as a public health issue, not just an equal opportunity issue.”

Animal studies help dispel doubts that we’re really seeing sickly and anxiety-prone individuals filter to the bottom of the socioeconomic heap. In primate experiments females of low standing are more likely to develop heart disease compared with their counterparts of higher standing. When eating junk food, they more rapidly progress toward heart disease. The lower a macaque is in her troop, the higher her genes involved in inflammation are cranked. High-ranking males even heal faster than their lower-ranking counterparts. Behavioral tendencies change as well. Low-ranking males are more likely to choose cocaine over food than higher-ranking individuals.

All hope is not lost, however. Gene expression profiles can normalize when low-ranking adult individuals ascend in the troop. “There are likely contextual influences that are not necessarily immutable,” says Daniel Hackman, a postdoctoral scholar at the University of Pittsburgh. And yet, as with humans, the mark of early-life hardship persists in nervous systems wired slightly differently. A nurturing bond with a caregiver in a stimulating environment appears essential for proper brain development and healthy maturation of the stress response. That sounds easy enough, except that such bonds, and the broader social networks that support them, are precisely what poverty disrupts. If you’re an underpaid, overworked parent — worried, behind on rent, living in a crime-ridden neighborhood — your parental skills are more likely to be compromised. That’s worrisome given the trends in the United States. About one in five children now lives below the poverty line, a 35 percent increase in a decade. Unicef recently ranked the United States No. 26 in childhood well-being, out of 29 developed countries. When considering just childhood poverty, only Romania fares worse.

“We’re going in the wrong direction in terms of greater inequality creating more of these pressures,” says Nancy Adler, the director of the Center for Health and Community at the University of California, San Francisco. As income disparities have increased, class mobility has declined. By some measures, you now have a better chance of living the American dream in Canada or Western Europe than in the United States. And while Americans generally gained longevity during the late 20th century, those gains have gone disproportionately to the better-off. Those without a high school education haven’t experienced much improvement in life span since the middle of the 20th century. Poorly educated whites have lost a few years of longevity in recent decades.

A National Research Council report, meanwhile, found that Americans were generally sicker and had shorter life spans than people in 16 other wealthy nations. We rank No. 1 for diabetes in adults over age 20, and No. 2 for deaths from coronary artery disease and lung disease. The Japanese smoke more than Americans, but outlive us — as do the French and Germans, who drink more. The dismal ranking is surprising given that America spends nearly twice as much per capita on health care as the next biggest spender.

But an analysis by Elizabeth H. Bradley, an economist at the Yale School of Public Health, suggests that how you spend money matters. The higher the spending on social services relative to health care, she's found, the greater the longevity dividends.

Some now argue that addressing health disparities and their causes is not just a moral imperative, but an economic one. It will save money in the long run. The University of Chicago economist James Heckman estimates that investing in poor children yields a yearly return of 7 to 10 percent thereafter to society.

Early-life stress and poverty aren't a problem of only the poor. They cost everyone. Moises Velasquez-Manoff is a science writer and the author of "An Epidemic of Absence: A New Way of Understanding Allergies and Autoimmune Diseases."

Date: Thu, 31 Jan 2013 00:30:52 -0500

To:

Inst

Clin

FD/

From:

**Subject: An NIH Cross-Institute Rapid Discovery Project: Marmot, Neuroscience, and the Primate Subordination Syndrome Hypothesis**

Cc:

Dear Dr. Lauer (and Colleagues):

I write in your leadership and planning capacity for NIH-wide initiatives and also in response to your editorial in JAMA. In the editorial you discussed the research challenge that "Despite 50 years of epidemiologic knowledge and despite numerous therapeutic advances, risk factors among minority populations are unacceptably high and consequential" (and the Los Angeles Times headlined its news story: "Blacks Twice as Likely to Die of Coronary Disease as Whites"). I write to suggest a cross-Institute rapid learning project, partly arising from my areas of public policy work in the social sciences, that may be relevant to these challenges and other difficult societal and behavioral problems within the purview of NIH.

### Connecting the Dots: A Primate Subordination Syndrome?

Several years ago it occurred to me that a new connect-the-dots theory of a Primate Subordination Syndrome, emerging from new neuroscience investigations, could explain an unrecognized causal pathway for a range of effects observed in unsolved public policy problems in lower status human populations. In other primates an inherited brain mechanism, activated by social dominance hierarchies, appears to cause a package of motivational, stress, endocrine, postural, and health effects and (perhaps) other effects. In human brains, the activating and sustaining pathways would likely be hierarchical dramas of identity and to involve the visual cortex. I enclose a copy of a review article in Science by Sapolsky touching on some of this emerging evidence.

### Associated Predictions

- A network of observed public health links also could be explained by this model. A strong, hierarchical experience of a relationship to a loving God might, for example, be one of the pathways by which strong traditional religious faith (e.g., in Judaism and/or Christian religious fundamentalism) provides a prevention and empowerment function. If it becomes a central drama of identity, it may thereby provide protection from the lower status effects in secular reality. Similar preventive effects may operate, via disabling this social subordination pathway, in Buddhism.

-I also enclose a brief summary diagram from the classic psychoanalytic study by Kardiner and

Ovesey, The Mark of Oppression (1951). They suggested a brain/behavioral syndrome that, today, might be established by direct neuroscience measurement as the Primate Subordination Syndrome.

### The Possibility of Societal Learning and Evidence-Based Dialogue

In America, Republicans tend to explain motivational and other effects associated with problems of social, economic, and political participation and education attainment in lower status populations, as effects of a dependency syndrome induced by an overly benevolent government and welfare state. [Part of the moral commitment of leaders like Governor Romney or President Reagan is their belief that they, too, are fighting for strong, healthy, self-starting individuals.] The theory of a Primate Subordination Syndrome suggests that these causal views are a misinterpretation. However, as there also are shared commitments to strong, healthy, self-starting individuals, a productive, evidence-based dialogue could emerge for the country. Also, once brain and other pathways are clarified, new and straightforward (biological and other) solutions may be invented that assist minority and other affected populations..

### Collaboratory Database Requirements

An NIH cross-Institute project would be hard work, and require the development and validation of new measures. Breakthroughs also may require including relevant neuroscience measures and data in NIH Collaboratory records. However, this would be exciting and possibly transformational research. with rapid benefits in the US minority populations [cited by Dr. Lauer] with unexplained and unprevented additional health problems. Worldwide, discrimination is ubiquitous and NIH research could expand a sense of shared humanity, and be a catalyst to remove some of these barriers to human potential on a wider scale.

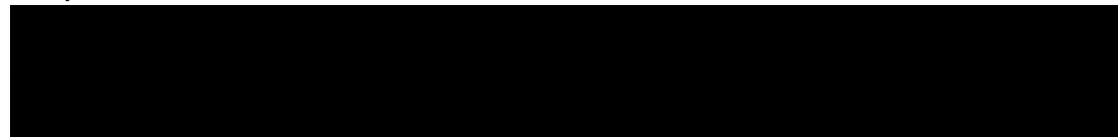
### Big Data Puzzles

I understand that Kaiser is finding that its "dual eligible" populations - i.e., that are the most likely to reflect a lower status/Primate Subordination Syndrome sense of their place in society - do not respond to their standard medical treatments in the same way as other populations with the same diagnoses. If NIH Collaboratory databases quickly confirm this, the discovery also suggests that an unrecognized, shared causal mechanism (consistent with Marmot's investigations) may be at work in lower status/minority populations and that the predicted existence of a Primate Subordination Syndrome would be worth evaluating as an explanation of these observations and additional causal pathways affecting public health.

With my best regards,

Lloyd Etheredge

Dr. Lloyd S. Etheredge, Director - Government Learning Project  
Policy Sciences Center Inc.



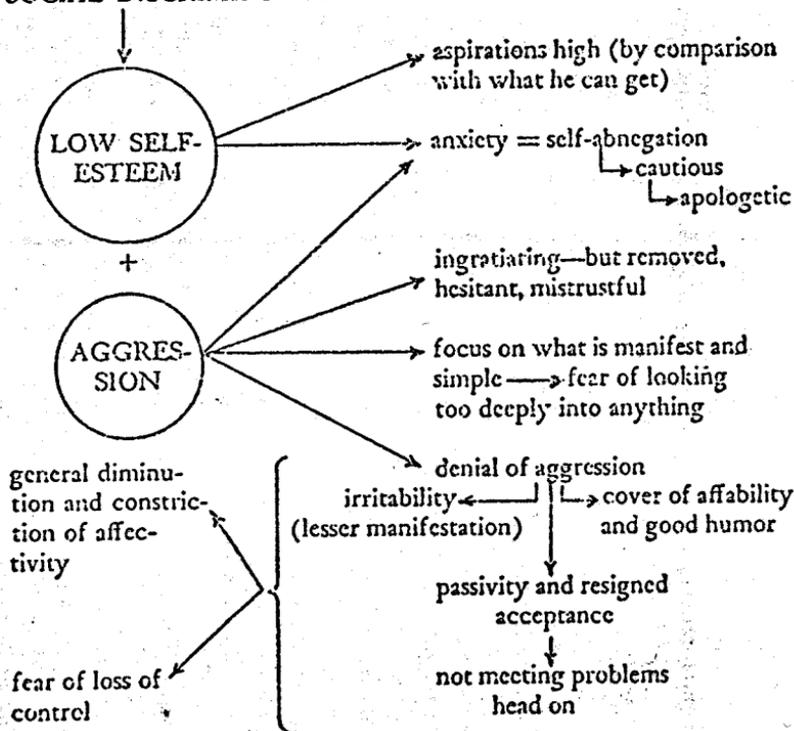
[The Policy Sciences Center, Inc. is a public foundation that develops and integrates knowledge and practice to advance human dignity. It was founded by Harold Lasswell, Myres McDougal, and their associates in 1948 in New Haven, CT. Further information about the Policy Sciences Center and its projects, Society, and journal is available at [www.policysciences.org](http://www.policysciences.org).]

from Abraham Kardiner &  
 Lionel Ovesy, The Mark of  
 Oppression, p. 303

PSYCHODYNAMIC INVENTORY OF NEGRO PERSONALITY 303

because the individual, in order to maintain internal balance and to protect himself from being overwhelmed by it, must initiate restitutive maneuvers in order to keep functioning—all quite automatic and unconscious. In addition to maintaining an internal balance, the individual must continue to maintain a social façade and some kind of adaptation to the offending stimuli so that he can preserve some social effectiveness. All of this requires a constant preoccupation, notwithstanding the fact that these adaptational processes all take place on a low order of awareness. The following is a diagram of a typical parallelogram of forces:

SOCIAL DISCRIMINATION



In the center of this adaptational scheme stand the low self-esteem (the self-referential part) and the aggression (the reactive part). The rest are maneuvers with these main constellations, to prevent their manifestation, to deny them and the sources from which they

## The Influence of Social Hierarchy on Primate Health

Robert M. Sapolsky

Dominance hierarchies occur in numerous social species, and rank within them can greatly influence the quality of life of an animal. In this review, I consider how rank can also influence physiology and health. I first consider whether it is high- or low-ranking animals that are most stressed in a dominance hierarchy; this turns out to vary as a function of the social organization in different species and populations. I then review how the stressful characteristics of social rank have adverse adrenocortical, cardiovascular, reproductive, immunological, and neurobiological consequences. Finally, I consider how these findings apply to the human realm of health, disease, and socioeconomic status.

One of the greatest challenges in public health is to understand the “socioeconomic gradient.” This refers to the fact that in numerous Westernized societies, stepwise descent in socioeconomic status (SES) predicts increased risks of cardiovascular, respiratory, rheumatoid, and psychiatric diseases; low birth weight; infant mortality; and mortality from all causes (1–4). This relation is predominately due to the influence of SES on health, rather than the converse, and the disease incidences can be several times greater at the lower extreme of the SES spectrum.

One set of questions raised by the gradient concern its external causes. Despite human aversion to inequity in some settings (5), many Westernized societies tolerate marked SES gradients in health care access. Is this the predominant cause of the health gradient, or is it more a function of differences in lifestyle risk factors or of the psychosocial milieu in which poverty occurs?

Another set of questions concern the physiological mediators of the SES-health relationship—how, in a frequently used phrase in the field, does poverty get under the skin? These physiological questions are difficult to study in humans, and an extensive literature has focused instead on nonhuman animals. Despite the demonstration that some nonhuman species can also be averse to inequity (6), groups of social animals often form dominance hierarchies, producing marked inequalities in access to resources. In such cases, an animal’s dominance rank can dramatically influence the quality of its life. Does rank also influence the health of an animal?

The study of rank-health relations in animals has often been framed in the context of stress

and the idea that animals of different ranks experience different patterns of stress (Fig. 1). A physical stressor is an external challenge to homeostasis. A psychosocial stressor is the anticipation, justified or not, that a challenge to homeostasis looms. Psychosocial stressors typically engender feelings of lack of control and predictability and a sense of lacking outlets for the frustration caused by the stressor. Both types of stressor activate an array of endocrine and neural adaptations (Fig. 2). When mobilized in response to an acute physical challenge to homeostasis (such as fleeing a predator), the stress response is adaptive, mobilizing energy to exercising muscle, increasing cardiovascular tone to facilitate the delivery of such energy, and inhibiting unessential anabolism, such as growth, repair, digestion, and reproduction. Chronic activation of the stress response by chronic psychosocial stressors (such as constant close proximity to an anxiety-provoking member of one’s own species) can increase the risk of numerous diseases or exacerbate such pre-existing diseases as hypertension, atherosclerosis, insulin-resistant diabetes, immune suppression, reproductive impairments, and affective disorders (7).

In most social species, dominance rank influences the extent to which an individual sustains physical and psychosocial stressors. Thus, dominance rank can potentially influence an individual animal’s vulnerability to stress-related disease. In this review, I first consider which social ranks are most stressful, with an emphasis on nonhuman primates; stress can be experienced by both high- and low-ranking animals, and it varies as a function of the social organization in different species and populations. I then review the pathology that occurs in animals suffering from the most rank-related social stress. Finally, I consider the relevance of these hierarchy/health relationships to humans.

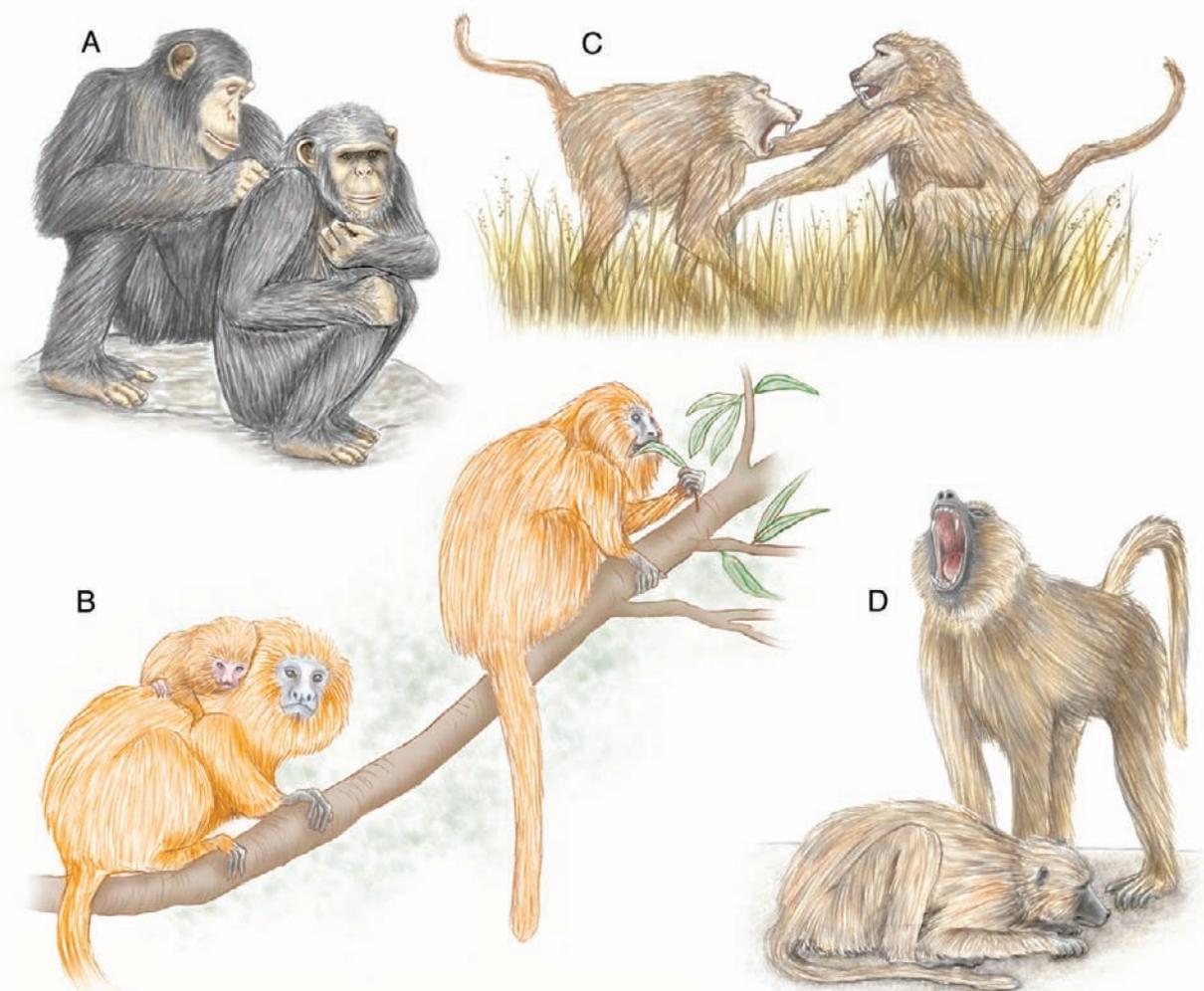
### Which Ranks Are More Stressful?

No consensus exists as to whether dominant or subordinate animals are more physiologically “stressed.” Research in the 1950s, since discredited, argued that high rank was more physiologically stressful (that is, the “executive stress syndrome,” which was purportedly valid for both humans and other primates) (8). By the 1960s, the prevailing view had become that lower dominance rank carries the greatest risk of stress-related disease (9). It has now become clear that this too is an incorrect generalization. The contemporary view reflects the heterogeneity that is the core of ethology: Rank means different things in different species and populations. Patterns that occur amid this heterogeneity help to resolve many inconsistencies in the data, showing that the rank that experiences the most physical and psychological stressors tends to display the most severe stress-related pathologies (Fig. 2).

*Resource inequity.* The extent to which resources are divided unequally among individuals varies as a function of the dominance style of different species. At one extreme are top-down “despotic” hierarchies in which resource access is skewed markedly and dominant positions are attained through aggression and intimidation. In contrast, bottom-up “egalitarian” hierarchies have more equal resource distribution, and dominance is attained with the support of subordinate individuals (10). As will be seen, social subordination in despotic species can be associated with the greatest physiological indices of stress. In contrast, this is not a feature of subordination in egalitarian species.

*Maintenance of dominance.* In some species, rank is lifelong and inherited (for example, in female rhesus monkeys); in others, it may fluctuate, reflecting what has been aptly termed shifts in group “politics” (11). In species where ranks shift, how does an individual, once attaining a high rank, maintain it? At one extreme among species with despotic hierarchies, high-ranking individuals frequently and aggressively reassert their domination over the subordinate cohort (even in the absence of an overt challenge). In such species, which include dwarf mongooses, African wild dogs, and ring-tailed lemurs, dominant individuals have the greatest physiological indices of stress, most plausibly reflecting the physical demands of frequent fighting (12, 13). In contrast, in other

Departments of Biological Sciences, Neurology and Neurological Sciences, Stanford University, MC 5020, Stanford, CA 94305–5020, USA, and Institute of Primate Research, National Museums of Kenya. E-mail: sapolsky@stanford.edu



**Fig. 1.** (A and B) Affiliative behavior among subordinates can reduce the effects of stress. (A) Chimpanzees engage in social grooming. (B) A female tamarin monkey cares for another's young while the mother feeds. (C and D) Stressful dominance behavior may take physical or psychosocial forms. (C) Male savanna baboons may fight over a kill. (D) A dominant male baboon intimidates a subordinate. [Image credit: Carin Cain/Science]

despotic species, high-ranking individuals maintain dominance through psychological intimidation rather than aggression (where, for example, mere eye contact with the alpha individual might elicit subordination gestures). In such cases (e.g., savanna baboons, rhesus and squirrel monkeys, mice, rats, and white-throated sparrows), subordination is associated with the greatest physiological indices, plausibly reflecting the frequent psychological stressors for subordinates and the paucity of physical stressors for dominant individuals (12–18).

**Breeding style.** In many species, including some Old World primates, dominant alpha individuals of both genders monopolize breeding through aggression and intimidation. This can be sufficiently stressful to impair fertility in subordinates, producing “social contraception.” A different picture occurs in cooperative breeders, where one breeding female dominates other females, who are anovulatory. However, this subordination is minimally stressful, not involving aggression or harassment by the dominant female. Instead,

the anovulatory individuals are mostly younger sisters, waiting their turn to breed and helping to raise nieces and nephews (19). Among cooperative breeders such as marmosets, ring-tailed lemurs, marmots, wolves, and Florida scrub jays, subordinates show no more stress-related pathophysiology than do dominant individuals and may even have fewer indices (13, 19–21).

**Stability of social ranks.** When the hierarchy is stable in species where dominant individuals actively subjugate subordinates, it is the latter who are most socially stressed; this can particularly be the case in the most extreme example of a stable hierarchy, namely, one in which rank is hereditary. This reflects the high rates of physical and psychological harassment of subordinates, their relative lack of social control and predictability, their need to work harder to obtain food, and their lack of social outlets such as grooming or displacing aggression onto someone more subordinate. During major hierarchical reorganization, however, dominant individuals at the center of the social tensions typically experience the greatest amounts of physical and

psychological stress. As a result, during such reorganization among wild baboons or soon after group formation among species of captive primates, dominant individuals have the greatest physiological indices of stress; this has been shown in talapoin monkeys, squirrel monkeys, various macaque species, wild baboons, and chimpanzees. Once hierarchies stabilize, subordination becomes associated with the greatest physiological indices of stress (22).

**Subordinate coping strategies.** Stress-related physiological endpoints not only reflect the frequency and severity of stressors but also the availability and efficacy of coping outlets. Such outlets most commonly involve social support (such as grooming, physical contact, or coalition formation). Moreover, the occurrence in some species of reconciliative behaviors between two individuals shortly after a competitive interaction can be interpreted as a coping outlet for the loser of that interaction (23). The issue of coping outlets has been examined in a meta-analysis of rank-physiology relationships in both genders of an array of primate species.

Numerous variables related to social structure were considered, and three were collectively highly predictive of the occurrence of elevated stress hormone levels among subordinate animals: (i) high rates of being subjected to stressors; (ii) low availability of social support; and (iii) minimal presence of kin (24).

**Subordinate avoidance of dominants.** The inability to physically avoid dominant individuals is associated with stress, and the ease of avoidance varies by ecosystem. The spatial constraints of a two-dimensional terrestrial habitat differ from those of a three-dimensional arboreal or aquatic setting, and living in an open grassland differs from living in a plain dense with bushes. As an extreme example, subordinate animals in captivity have many fewer means to evade dominant individuals than they would in a natural setting (25). Thus, although dominant wolves have elevated stress hormone levels in the wild (21), subordinates demonstrate this trait in captivity (26).

**Subordinates' use of alternative strategies.** Implicit in being subordinate are the notions that one has reduced access to desirable resources and that this can translate into reduced Darwinian fitness. Sometimes, however, subordinate animals can pursue alternative behavioral strategies that, in effect, move them outside the hierarchy. For example, low rank among males of various Old World monkey species, as the result of male-male competition, has been thought to mean minimal reproductive access to females. However, females actually have considerable control over who they mate with. These are often low-ranking individuals with whom they have affiliative relationships (such as

frequent, nonsexual bouts of reciprocal grooming) (27). Such males not only have greater reproductive success than originally thought but also fewer physiological indices of stress than would be expected for their rank (28).

A different alternative strategy occurs among orangutans. Dominant males have pronounced secondary sexual characteristics, whereas subordinate individuals appear “juvenile.” This appearance is not merely a chronological stage. Instead, it is a state of arrested development in the presence of a dominant male and can persist for years. When the dominant male is removed, the apparently juvenile individual develops secondary sexual traits. This arrested state might seem to be a case of stress-induced social contraception. However, “juvenile” males are fertile, have some reproductive success (as they will force copulations when a dominant male is absent), and do not have elevated stress hormone levels or stress-related reproductive impairments. Rather than a stress-induced pathology, the arrest appears to be an alternative strategy. It is actually males in the process of the conspicuous, slow transition to the dominant form with the most marked physiological indices of stress (29).

**Stress of dominating mating.** In species with a sharply demarcated mating season, or where a few males disproportionately dominate mating, male-male competition for mating access can be fierce, dangerous, and at the cost of feeding and of affiliative behaviors. This raises the ironic possibility that dominant males may be sufficiently stressed by such competition that their testicular axes are suppressed. However, various endocrine mechanisms have evolved

that buffer reproductive physiology under that circumstance, either through blunting the release of stress hormones or blunting their ability to suppress the testicular system (30).

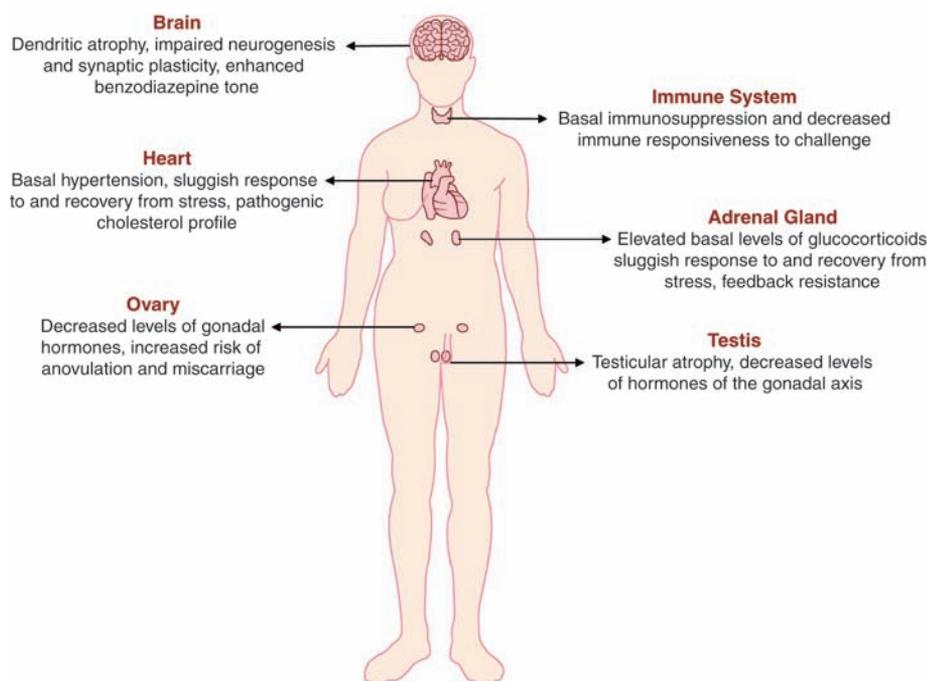
**Atmosphere and culture.** The nature of dominance varies with species and gender. Additionally, different populations of a species vary in their social milieu, and rank-physiology relationships can vary as well. For example, patterns of foraging by subordinate female spotted hyenas differ markedly between the enclosed Ngorongoro Crater and the open Serengeti Plains in East Africa, and only in the latter is subordination associated with elevated stress hormone levels (31). As another example, the elevated stress hormone levels observed among subordinate female macaques do not occur in a troop with atypically high rates of affiliative support (32, 33). In the realm of animal “culture,” multigenerational transmission of a culture of low aggression and high affiliation in a troop of wild baboons results in subordinate males that do not display the stress-related pathophysiology found in other troops (34).

**Personality.** Precedent exists for modulation of stress reactions by individuals' personalities. For example, independent of rank, primates who distinguish poorly between threatening and neutral stimuli, lack social outlets for support, and are hyperreactive to novelty have elevated stress hormone levels (35, 36) and increased rates of atherosclerosis (37).

Thus, under a variety of circumstances, social dominance can be associated with the most stress-related pathology, whereas in other situations, this is a trait of subordinate individuals. Are there common themes underlying this variability? Broadly and logically, adverse physiological profiles are most pronounced among animals of the rank exposed to the most physical and psychological stressors. This can arise from (i) low degrees of social control and predictability (as in dominant animals in unstable hierarchies and subordinate animals in small living spaces); (ii) a paucity of outlets after exposure to stressors (such as subordinate individuals in species lacking alternative strategies to hierarchical competition); (iii) a paucity of social support (for example, subordinate animals in settings with few kin and little access to social grooming); or (iv) high rates of physical stressors (such as dominant individuals who, as a function of their species or the instability of their hierarchy, must constantly reassert their dominance by physical means). Moreover, these links between rank and pathology can be made even more dramatic by the culture of a particular social group and by a personality prone toward interpreting ambiguous social circumstances as psychologically stressful.

### Negative Physiological Effects of Stressful Social Ranking

Studies of both feral and captive animal populations show that animals with specific



**Fig. 2.** Physiological correlates of the more stressful social rank. [Image credit: Bayard Colyear, Stanford Visual Arts Services]

dominance ranks tend to show characteristic stress-related physiological profiles (Table 1). We know that a particular rank gives rise to a particular physiological profile, rather than *visa versa*, because studies of individual captive animals before they are placed in social groups indicate that physiological profiles of singly-housed subjects do not predict their subsequent ranks in a social group (38).

Several stress-related physiological endpoints have been found to be sensitive to rank. The most frequently studied endpoint is the blood level of glucocorticoids (GCs), adrenal steroid hormones that are secreted during stress, such as cortisol or hydrocortisone in primates and corticosterone in many rodent species. GCs typify the double-edged nature of the stress response, as they help mediate adaptation to short-term physical stressors yet are pathogenic when secreted chronically.

Consistently, animals who are more socially stressed by the dominance hierarchy show indices of hyperactivity of the GC system. This includes elevated basal levels of GCs, the enlarged adrenal glands that accompany such increased secretion, a sluggish GC stress response in the face of a major homeostatic challenge, and impaired sensitivity of the system to negative feedback regulation.

In some cases, it is dominant individuals who show this profile. This includes species where dominant individuals have to repeatedly and physically reassert their rank (e.g., feral populations of dwarf mongooses, African wild dogs, female ring-tailed lemurs, and male chimpanzees) (12, 13, 39); those that are cooperative breeders (feral wolves and captive marmosets and tamarins) (16, 21); and those with transient periods of major rank instability (feral baboons and captive populations of talapoin, squirrel, and rhesus monkeys) (22).

In contrast, this profile is seen among subordinate individuals in species where high rank is maintained through nonphysical intimidation and the hierarchy is stable (feral male baboons and captive populations of squirrel and rhesus monkeys, tree shrews, rats, and mice) (22, 40, 41); where subordinates are exposed to frequent social stressors amid low availability of social support and minimal presence of kin (feral ring-tailed lemurs and captive populations of male rhesus or female talapoin monkeys) (13, 24); and when animals are in an enclosure too small to allow subordinate individuals to evade dominant ones (26).

A second prominent feature of the stress response is secretion of the catecholamine hormones (epinephrine and norepinephrine). These hormones of the sympathetic nervous system are secreted within seconds of the onset of a stressor (versus minutes for GCs) and have many of the same effects as GCs upon metabolism and cardiovascular tone. Thus, as with GCs, although the acute secretion of catecholamines is adaptive, prolonged secretion can be pathogenic. The

speed with which catecholamines are secreted typically precludes measuring basal circulating levels (because of the stress caused by the restraint of subjects for taking blood samples), and the hormones are poorly and variably preserved in urine and feces. Thus, little is known about rank-catecholamine relationships.

Prolonged stress adversely affects cardiovascular function, producing (i) hypertension and elevated heart rate; (ii) platelet aggregation and increased circulating levels of lipids and cholesterol, collectively promoting atherosclerotic plaque formation in injured blood vessels; (iii) decreased levels of protective high-density lipoprotein (HDL) cholesterol and/or elevated levels of endangering low-density lipoprotein (LDL) cholesterol; and (iv) vasoconstriction of damaged coronary arteries. A small literature demonstrates that animals who are more socially stressed by the dominance hierarchy demonstrate (i) basal hypertension; (ii) a sluggish activation of the cardiovascular stress response after a challenge and delayed recovery when it abates; (iii) a pathogenic cholesterol profile; and (iv) increased vulnerability to the atherogenic effects of a high-fat diet. These are traits of subordinate individuals when the dominance hierarchy is stable (among captive fascicularis macaques of both genders and among feral male savanna baboons) but of dominant individuals of the same populations when the hierarchy is unstable (37, 42, 43).

Chronic stress inhibits reproduction in both genders, a classic example of stress suppressing a costly anabolic process until more auspicious times. In females, this suppression can take the

form of delayed puberty, decreased levels of estrogen and progesterone, increased incidence of anovulatory cycles, impaired implantation, greater risk of miscarriage, prolonged interbirth intervals, and accelerated reproductive senescence. Primate studies show that the stress of subordination in a stable hierarchy (of cynomolgus monkeys) is associated with decreased gonadal hormone levels (42); there are conflicting data as to whether dominance or subordination in stable hierarchies of feral baboons is associated with higher rates of miscarriage (44, 45).

Among males, prolonged and major stress can suppress fertility; at an extreme in teleost fish, this includes atrophy of testes and of hypothalamic regions responsible for gonadotropin release (46). More commonly, stress can suppress circulating testosterone levels (9). However, there are many exceptions, as numerous species are resistant to this effect when the stressor is male-male competition during mating seasons; moreover, it is not clear how often these lower testosterone levels actually affect behavior or fertility. There is no consensus as to whether more socially stressed individuals have lower basal testosterone levels. However, such individuals (in this case, subordinate male baboons in a stable hierarchy) are more vulnerable to the suppressive effects of stress on basal testosterone levels (9).

Stress has complex time- and severity-dependent effects upon immunity. In general, mild to moderate transient stressors enhance immunity, particularly the first phase of the immune response, namely innate immunity. Later

**Table 1.** Influence of societal characteristics on stress experienced by high- and low-ranking individuals. An asterisk indicates no rank-related trend.

Societal characteristic	Individuals experiencing the most stress
<i>Dominance style and means of maintaining despotic dominance</i>	
Despotic hierarchy maintained through frequent physical reassertion of dominance	High-ranking
Despotic hierarchy maintained through intimidation	Low-ranking
Egalitarian hierarchy	*
<i>Style of breeding system</i>	
Cooperative	High-ranking
Competitive	*
<i>Stability of ranks</i>	
Unstable	High-ranking
Highly stable	Low-ranking
<i>Availability of coping outlets for subordinates</i>	
High availability	*
Low availability	Low-ranking
<i>Ease with which subordinates avoid dominant individuals</i>	
Easy avoidance	*
Difficult avoidance	Low-ranking
<i>Availability of alternative strategies to overt competition</i>	
Present	*
Lacking	Low-ranking
<i>Personality</i>	
Dominants perceive neutral interactions as challenging; subordinates take advantage of coping strategies	High-ranking
Dominants are adept at exerting social control and highly affiliative; subordinates are poor at exploiting opportunities for coping and support	Low-ranking

phases of the stress response are immunosuppressive, returning immune function to baseline. Should the later phase be prolonged by chronic stress, immunosuppression can be severe enough to compromise immune activation by infectious challenges (47, 48). In contrast, a failure of the later phase can increase the risk of the immune overactivity that constitutes autoimmunity. No studies have examined rank differences in the first immunostimulatory phase of the stress response or in the risk of autoimmunity if the later suppressive stage fails to occur. However, suppression of circulating lymphocyte numbers and blunted immune responsiveness to a challenge have been reported among animals socially stressed by a dominance hierarchy (subordinate rodents and pigs subject to high rates of attack and dominant chimpanzee males in an unstable captive population). Less clear is whether such rank effects are of sufficient magnitude to actually increase the risk of infectious disease (47, 49).

Animals who are socially stressed by the dominance hierarchy for prolonged periods undergo neurobiological changes as well. This can involve inhibition of neurogenesis, dendritic atrophy, and impairment of synaptic plasticity in the hippocampus (50, 51) and altered patterns of apoptotic cell death (increases in the cortex and decreases in the hippocampus) (52); these pathologies have been observed in socially subordinate rodents and tree shrews in stable hierarchies in captive populations.

Finally, a socially stressful position in a hierarchy is also associated with alterations in the neurochemistry of anxiety. Receptors exist in the nervous system for the anti-anxiety benzodiazepines (BDZs), which include the synthetic molecules diazepam and chlordiazepoxide hydrochloride as well as an as-yet uncharacterized endogenous BDZ. Pharmacological blockade of BDZ receptors caused the greatest disinhibition of anxiety-related behaviors in subordinate males in a stable hierarchy among feral baboons (34). This rank difference was interpreted as reflecting the demands for anxious vigilance among such individuals, necessitating a greater counteracting effect of endogenous BDZ tone.

### Human Hierarchies and Health

The literature reviewed raises the obvious question: Are these findings relevant to humans? Initially, they seem to be of minimal relevance. Humans are not hierarchical in the linear, unidimensional manner of many species. For example, humans belong to multiple hierarchies and tend to value most the one in which they rank highest (for example, a low-prestige employee who most values his role as a deacon in his church). Furthermore, the existence of internal standards makes humans less subject to the psychological consequences of rank. Finally, health-rank relations that are easy to study can be highly artificial (e.g., ex-

amining the physiological consequences of winning versus losing an athletic competition).

Despite these caveats, the SES gradient of health among Westernized humans is a robust example of social inequalities predicting patterns of disease. As mentioned earlier, stepwise descent in SES predicts a major increase in the incidence of an array of diseases and mortality (1–4).

These health effects of SES are not a result of poverty causing limited access to health care. Robust SES-health gradients exist in countries with universal health care and documented equality of access. In addition, gradients exist for diseases with incidences that are impervious to preventative health measures (e.g., juvenile diabetes) (2, 3).

Only a small portion of the SES-health relationship is due to SES-related life-style differences. In Westernized societies, lower SES is associated with higher rates of smoking and drinking to excess, less healthy diets, more sedentary life-styles, crime- and toxin-riddled communities, and fewer coping outlets (e.g., health club memberships and vacations). However, the most prominent of these factors collectively account for only a small part of the variability in the SES-health gradient (3).

Instead, increasing evidence suggests that the gradient arises from psychosocial factors. Subjective SES can be at least as predictive of health as is objective SES (1); in other words, feeling poor may be at the core of why being poor predicts poor health. In the United States, at the level of states or cities, the same low SES predicts poorer health in communities with greater income inequality (4). Whereas large inequalities decrease the availability of protective life-style factors for the poor in a community (what has been termed a “neomaterialist” explanation for the inequality-health relationship) (53), the disease consequences of feeling poor are often rooted in the psychosocial consequences of being made to feel poor by one’s surroundings (4). Increased income inequality typically decreases a community’s “social capital” (shown in decreased levels of trust and increased senses of alienation and disenfranchisement), and such decreased capital mediates the relationship between income inequality and health (2).

### Conclusions

Strong associations between social status and health thus occur in numerous species, including humans, with the poor health of those in the “wrong” rank related to their surfeit of physical and psychosocial stressors. In considering these issues in nonhuman species, the variability, qualifiers, and nuances of the rank-health relationship are frequently emphasized, a testament to the social complexity of other species. In contrast, in humans, there is a robust imperviousness of SES-health associations to differences in social and economic systems. It is not plausible that this human/nonhuman contrast re-

flects human sociality being less complex than in, say, baboons. Instead, it is a testimony to the power of humans, after inventing material technology and the unequal distribution of its spoils, to corrosively subordinate its have-nots.

### References and Notes

1. N. Adler et al., *Health Psychol.* **19**, 586 (2000).
2. I. Kawachi, B. Kennedy, *The Health of Nations: Why Inequality Is Harmful to Your Health* (New Press, New York, 2002).
3. J. Siegrist, M. Marmot, *Soc. Sci. Med.* **58**, 1463 (2004).
4. R. Wilkinson, *Mind the Gap: Hierarchies, Health, and Human Evolution* (Weidenfeld and Nicolson, London, 2000).
5. E. Fehr, B. Rockenbach, *Curr. Opin. Neurobiol.* **14**, 784 (2004).
6. S. Brosnan, F. de Waal, *Nature* **425**, 297 (2003).
7. R. Sapolsky et al., *Endocr. Rev.* **21**, 55 (2000).
8. J. Brady et al., *J. Exp. Anal. Behav.* **1**, 69 (1958).
9. R. Sapolsky, *Psychoneuroendocrinology* **16**, 281 (1991).
10. B. Thierry, M. Singh, W. Kaumanns, Eds., *Macaque Societies: A Model for the Study of Social Organization* (Oxford Univ. Press, New York, 2004).
11. F. de Waal, *Chimpanzee Politics: Power and Sex Among Apes* (Johns Hopkins Univ. Press, Baltimore, MD, 1983).
12. S. Creel et al., *Nature* **379**, 212 (1996).
13. S. Cavigelli, *Anim. Behav.* **57**, 935 (1999).
14. R. Sapolsky, *Biol. Psychiatry* **28**, 862 (1990).
15. F. Bercovitch, A. Clarke, *Physiol. Behav.* **58**, 215 (1995).
16. D. Abbott et al., *Comp. Biochem. Physiol. C* **119**, 261 (1998).
17. D. Davis, J. Christian, *Proc. Soc. Exp. Biol. Med.* **94**, 728 (1957).
18. K. Manogue et al., *Primates* **16**, 457 (1975).
19. D. Abbott et al., *Comp. Biochem. Physiol. C* **119**, 261 (1998).
20. S. Schoech et al., *Physiol. Zool.* **70**, 68 (1997).
21. J. Sands, S. Creel, *Anim. Behav.* **67**, 387 (2004).
22. R. Sapolsky, in *Primate Social Conflict*, W. Mason, S. Mendoza, Eds. (SUNY Press, New York, 1993), pp. 171–183.
23. F. de Waal, *Science* **289**, 586 (2000).
24. D. Abbott et al., *Horm. Behav.* **43**, 67 (2003).
25. S. Creel, *Trends Ecol. Evol.* **16**, 491 (2001).
26. P. McLeod et al., *Can. J. Zool.* **74**, 209 (1996).
27. B. Smuts, *Sex and Friendship in Baboons* (Harvard Univ. Press, Princeton, NJ, 1999).
28. C. Virgin, R. Sapolsky, *Am. J. Primatol.* **42**, 25 (1997).
29. A. Maggioncalda et al., *Am. J. Phys. Anthropol.* **118**, 25 (2002).
30. J. Wingfield, R. Sapolsky, *J. Neuroendocrinol.* **15**, 711 (2003).
31. W. Goymann et al., *Horm. Behav.* **43**, 474 (2003).
32. D. Gust et al., *Brain Behav. Immun.* **5**, 296 (1991).
33. B. Wallner, in *The Integrative Neurobiology of Affiliation*, C. Carter, B. Kirkpatrick, I. Lederhendler, Eds. (New York Academy of Science, New York, 1996), pp. 45–51.
34. R. Sapolsky, L. Share, *PLoS Biol.* **2**, E106 (2004).
35. C. Virgin, R. Sapolsky, *Am. J. Primatol.* **42**, 25 (1997).
36. J. Ray, R. Sapolsky, *Am. J. Primatol.* **28**, 231 (1992).
37. S. Manuck et al., *Psychosom. Med.* **57**, 275 (1995).
38. D. Morgan et al., *Am. J. Primatol.* **52**, 115 (2000).
39. N. Masataka, *Ethology* **85**, 147 (1990).
40. S. Barnett, *Nature* **175**, 126 (1955).
41. J. Eberhart, *Physiol. Behav.* **30**, 361 (1983).
42. C. Shively, T. Clarkson, *Arterioscler. Thromb.* **14**, 721 (1994).
43. R. Sapolsky, L. Share, *Am. J. Primatol.* **32**, 261 (1994).
44. C. Packer et al., *Nature* **373**, 60 (1995).
45. J. Altmann et al., *Nature* **377**, 688 (1995).
46. M. Fox, R. Andrews, *Behaviour* **46**, 129 (1973).
47. R. Ader et al., *Psychoneuroimmunology* (Academic Press, San Diego, CA, 2001), ed. 3.
48. S. Cohen et al., *Psychosom. Med.* **59**, 213 (1997).
49. F. Dhabhar, B. McEwen, *Proc. Natl. Acad. Sci. U.S.A.* **96**, 1059 (1999).
50. Y. Kozorovitskiy, E. Gould, *J. Neurosci.* **24**, 6755 (2004).
51. A. Magarinos et al., *J. Neurosci.* **16**, 3534 (1996).
52. P. Lucassen et al., *Eur. J. Neurosci.* **14**, 161 (2001).
53. J. Lynch et al., *Milbank Q.* **82**, 5 (2004).
54. Research by the author was supported by grants from the MacArthur, the Harry Frank Guggenheim, and the Templeton Foundations and by the Office of the President, Republic of Kenya.

1 December 2004; accepted 4 February 2005  
10.1126/science.1106477

PRESIDENT REAGAN'S COUNSELING

May, 1984

Lloyd S. Etheredge

[Research Note published in Political Psychology, 5:4 (1984), pp. 737 - 740.]

For decades, economic policy has been the territory of economists, governed by their idea that we are a nation of rational choices. President Reagan has changed the assumptions. He is using ideas familiar to psychoanalysts and clinical psychologists to diagnose the problems of the American economy and design a course of treatment. He has posed a set of problems which political psychologists can solve with great benefit to the intelligence of national policy.

The President's idea is simple. He says our economy's lack of vitality is produced because government has become a powerful, substantial presence "above" us here in America. Over the past thirty years as, in our national imagination, government became "bigger," we grew subjectively smaller to develop a national dependence. There was a "zero-sum" effect on each person's mind: as "it" (government) assumed more responsibility in national life, "we" (the people) took less. The work ethic disintegrated; productivity increases stopped; the economy stalled.

The President's economic policy follows logically. It is intellectually serious and urgent: he must provide national psychotherapy for a depressed, passive nation that expects its therapist to have a prompt and magical solution.

To effect the change he desires, our President-psychiatrist has designed a national psychodrama to inspire us, to create open space, and to reduce our idealized illusions. He is warm and supportive. He is cutting taxes and expenditures to make government above us "smaller." It may not be a cure we like, and there will be painful withdrawal symptoms, but we must again take responsibility for our own lives.

From personal experience, Dr. Reagan knows he is right. The dire predictions of his theory, made thirty years ago, appear correct to him. And in his autobiography, Where's the Rest of Me?, he sketches how he, too, was once dependent, in his case on the Hollywood studio system. He was well paid but unhappy, reading scripts written by others, never getting the leading dramatic roles he wanted to play. But then he became more

assertive, struck out on his own. Once he became his own man, life started to work for him. He made a successful

second marriage. Speaking his own ideas, he was elected Governor of California. Now, he has the leading role in the country.

Other aspects of the President's life and experience confirm the same intuitive truth. He enjoys exhilaration, and a sense of freedom, when he rides the open range on horseback, the experience of the open range for free entrepreneurship he has told us we will regain in our national psychology by cutting back that "big government" in the sky. When he escapes to California from Washington and clears brush on his ranch, he feels recharged. He knows we will feel that way too, as the American Congress "stays the course" to effect the psychological transformation he wants.

To be sure, this is a closed system of beliefs. Evidence is always interpreted in the light of what the President calls his "basic principles." If the economic recovery is slow, it only means problems of dependency and addiction to big government are deep in our national psyche. So he is under an even greater obligation to persevere until we regain our independence and self-confidence and restart the economy. He has no choice.

From the President's perspective there is likely a second cause of a slow recovery, a cause psychoanalysts and clinical psychologists often cite: we are resisting. To an unprecedented degree American news media refuse to discuss a national problem in the language a President uses. He has been stonewalled. CBS News runs nightly news stories about the sufferings imposed by Reaganomics but has not yet discussed the real national problem, our psychology of dependency. It is as though the Eastern liberal news media are so addicted to the drama of an activist government, so psychologically dependent, so accustomed to demand that the President do something, that they will never admit even the possibility he could be profoundly right.

If Reagan is right, these skeptics slow the cure. The President can cut taxes and expenditures; these are actions in physical reality. But the stakes are psychological reality. For the therapy to work we must agree - that the diagnosis of dependency is right, that big government is receding, that the therapist knows what he is doing.

It is also possible our actor-President is wrong. A powerful bond to government may be true of only 2% of the population: actors, intellectuals, reporters, the people who give money to political causes or end up in Washington. How can we tell?

The President has profoundly challenged the discipline of economics. His idea about how the economy works does not come from the hundreds of complex equations of their mathematical models. The basic problem, in his view, is simple: the economy is deeply political; we orient ourselves dependently toward government in a larger-than-life drama.

Lacking objective evidence, we now are adrift and debates about economic policy are decoupled, without intellectual integrity. Administration economists have given no evidence to support the intuitive psychological ideas about the economy the President uses to set policy. They have developed no national indicators for the substantiality of images of a "big" government in the sky, for changes in achievement motivation, for the alleged zero-sum allocations of responsibility.

Now, as we "stay the course," we navigate blind, on faith alone. Congress has applied no rules of evidence. The Report of the U.S. government's Council of Economic Advisers is intellectually irrelevant; it would be rejected as a test of the President's theories by any psychology department.

If the President is right, good national psychological indicators will tell us. And, refining our understanding, they might improve the President's policy. John F. Kennedy cut taxes and the economy leaped ahead - but Kennedy also talked about achievement - a New Frontier, a man on the moon by 1970. If psychodrama is needed, perhaps these are

the themes to emphasize.

The President is not speaking in metaphors. He believes he is talking about our reality: solid, strong constituents of individual's imagination so powerful in their effects as to destroy the health of a multi-trillion dollar economy and our national spirit. His theories reflect ideas many psychologists have voiced seriously in the past: psychoanalysts have told us that, via transference, many people related to government authority, in our "mass psychology," the way as children they regarded their magically powerful parents; David McClelland of Harvard explained the economic rise and fall of civilizations by changes in the imaginations of citizens.

Currently, empirical evidence bearing upon the President's fundamental assumption is indirect and inconsistent. Self-report measures seem to deny his model: Americans say they blame themselves for economic hardship. Yet macro-level studies of election results, and individual-difference measures of self-interested and "socio-tropic" voting suggest Reagan is correct and responsibility for management of the economy is assigned to the party in power.

Such measures of attitudes and voting are open to different interpretations as reflecting either rational and secular or psychodramatic processes. Alone, they cannot dispel the fog. The deeper question is the psychological nature of American government, and what is needed is that our public debates begin to be informed by evidence, from appropriate, clinically-derived measures, of the location and substance of citizens' experience of government.

## Economy Growth Innovation

**From:** "Makoto Yanase" [REDACTED]  
**Date:** Wed, August 14, 2013 1:52 am  
**To:** pcast@ostp.gov

Dear sir.

I want to request partnership(proposal) with US government. Actually, I tried several times sent e-mail to pcast already. My proposal is so complex also confidential. Because, my offer involve huge amount of value commodities. Then same time very risky myself. Those commodities are able to find(detect) only me. Because, I developed own Detector then 17 years trained detector actions. That's why, really need to confidential. Those commodities are sure help US economy growth also innovation, science for future. But only e-mail, it's impossible to believe kind of story. So I sent (contact) several times try to try with my drawings also proposal. If possible please check my e-mail account. Today, I want to ask contact way direct some your representative, if possible. Because best is talk face to face. Problem is I'm Japanese and here is Philippines. But basically, those commodities are not this country own. Hide and historical commodities. I try to contact USA, several months already. Problem, I have situation here, also there are time limited to contact USA. This is right information. Several countries are interested. My 1<sup>st</sup> priority is USA. Please check my e-mail address then assist or advice to me. And I'm so afraid contact this country inside. It's so risky this country. I ask direct USA contact. Anyway, I attached 1 e-mail and 3 kinds of drawings(3 pages each). Please check attached ones. Please response.

Makoto

# Attach1- (1)

## RECHARGE ECONOMIC NEW ENGINE

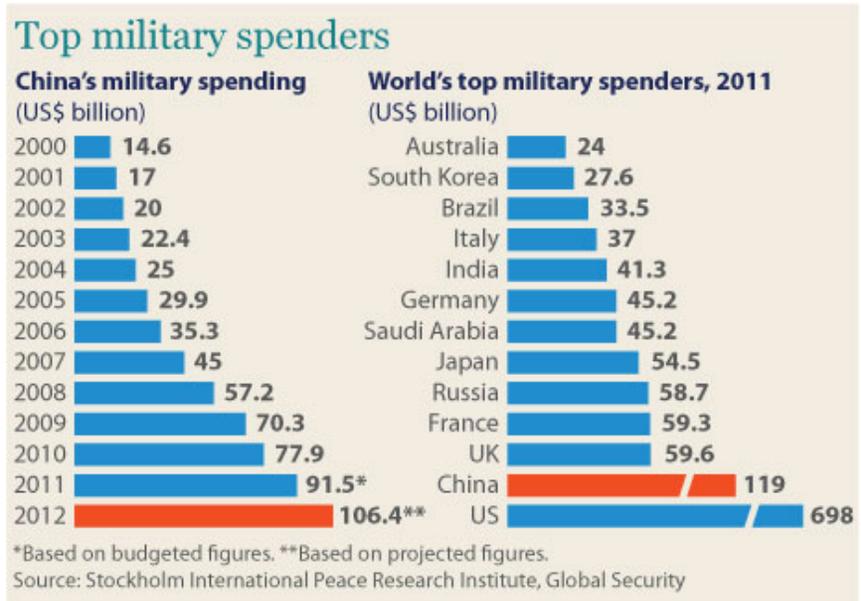
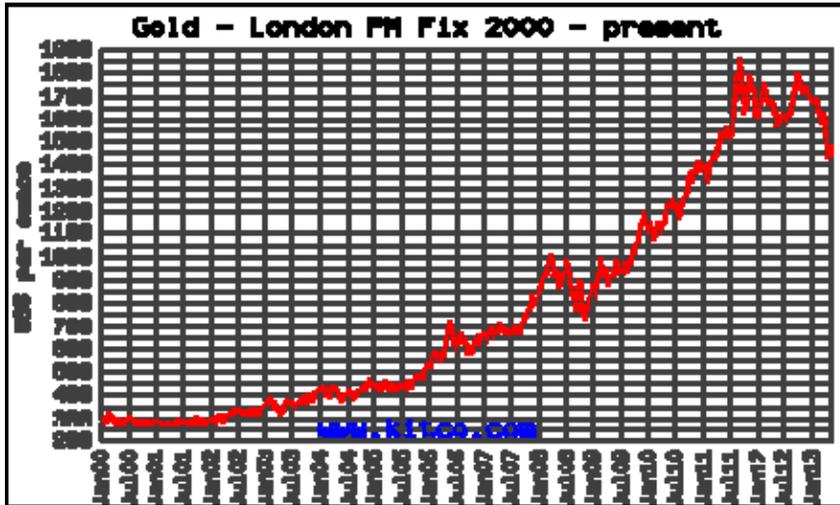
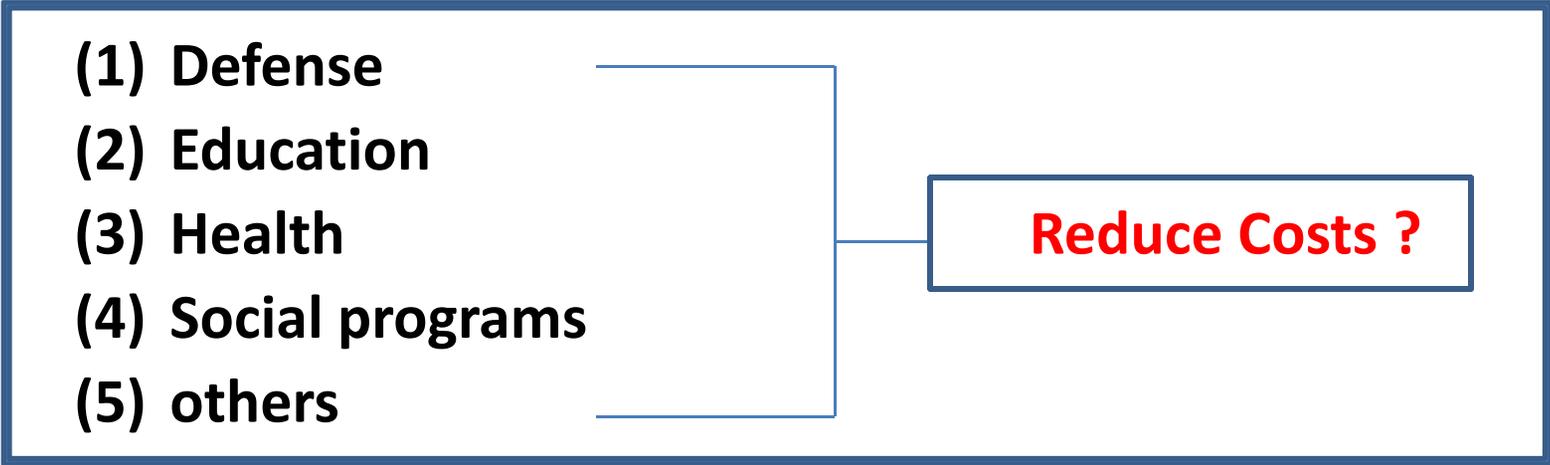
- (1) Innovation business..... No final, continue searching.  
(performance cost , kinds of risk )
- (2) Defense..... Reduce cost  
(risk for USA, also relation countries)
- (3) National Security, etc....
  - (1)Terrorism
  - (2)Energy
  - (3)Climate Change
  - (4)Costs
    - (1)Medical
    - (2)Nature(Hurricane, Tornado, etc)
    - (3)Emergency , etc.
- (4) Education
- (5) **Infrastructure Development**
- (6) **Investments, Manufacturing**



**FIND CAPITAL**  
Natural Resources(Best thing)

# Attach1- (2)

# Economy vs Costs



Attach1- (3)

# Find Most Valuable Materials

**(1)GOLD value increase every year**

(1) 2003 January	356.86	US\$ ounce
(2) 2008 January	889.60	US\$ ounce
(3) 2013 January	<b>1670.95</b>	US\$ ounce

**(2)GOLD is based on Economy always.**

**(3)GOLD is the best materials in the world**

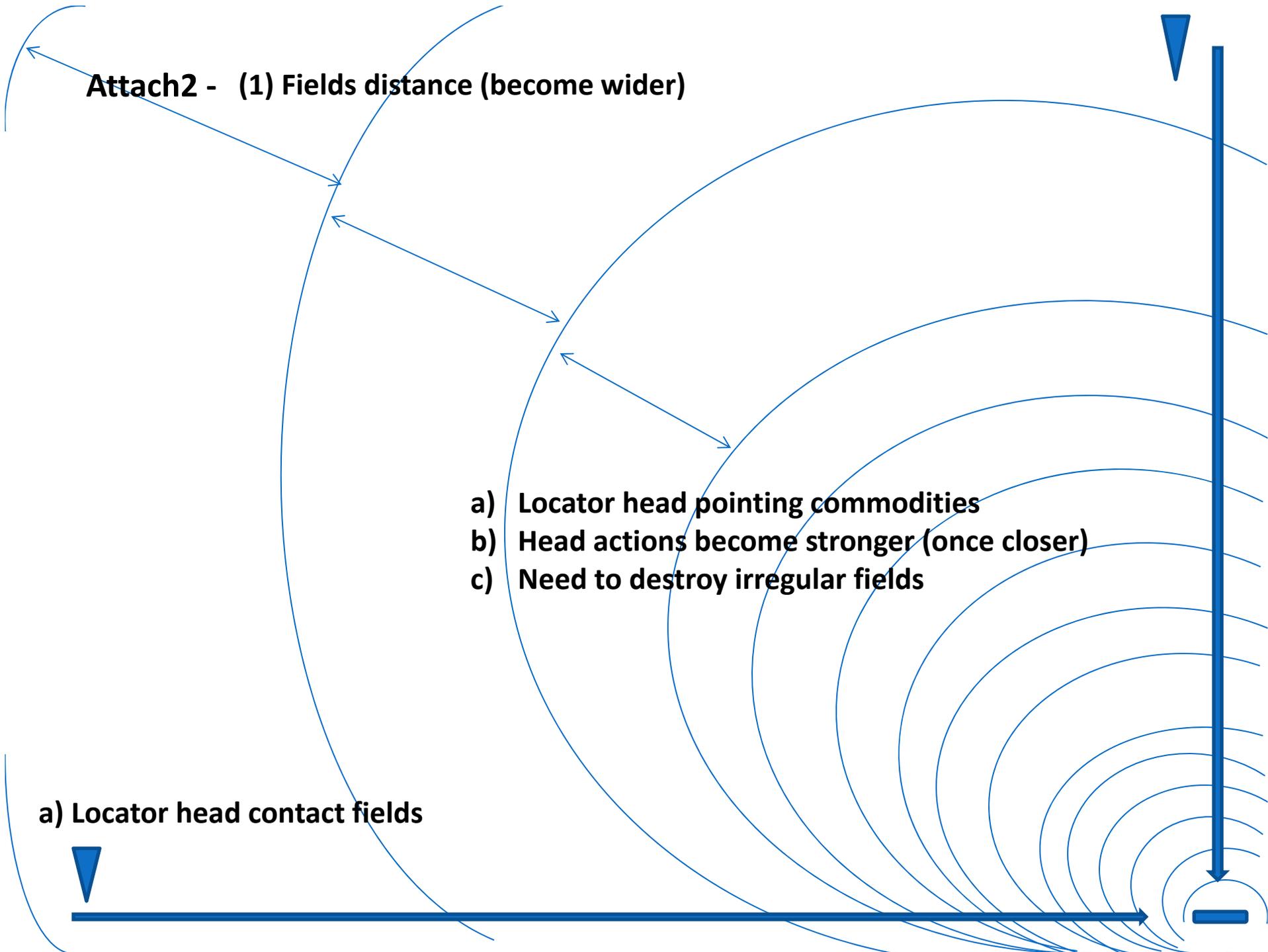


**(Proceed innovation)**

**OIL, Low cost** → **CAPITAL** ← **GOLD**



**GOLD is the most Powerful Recharge New Engine**

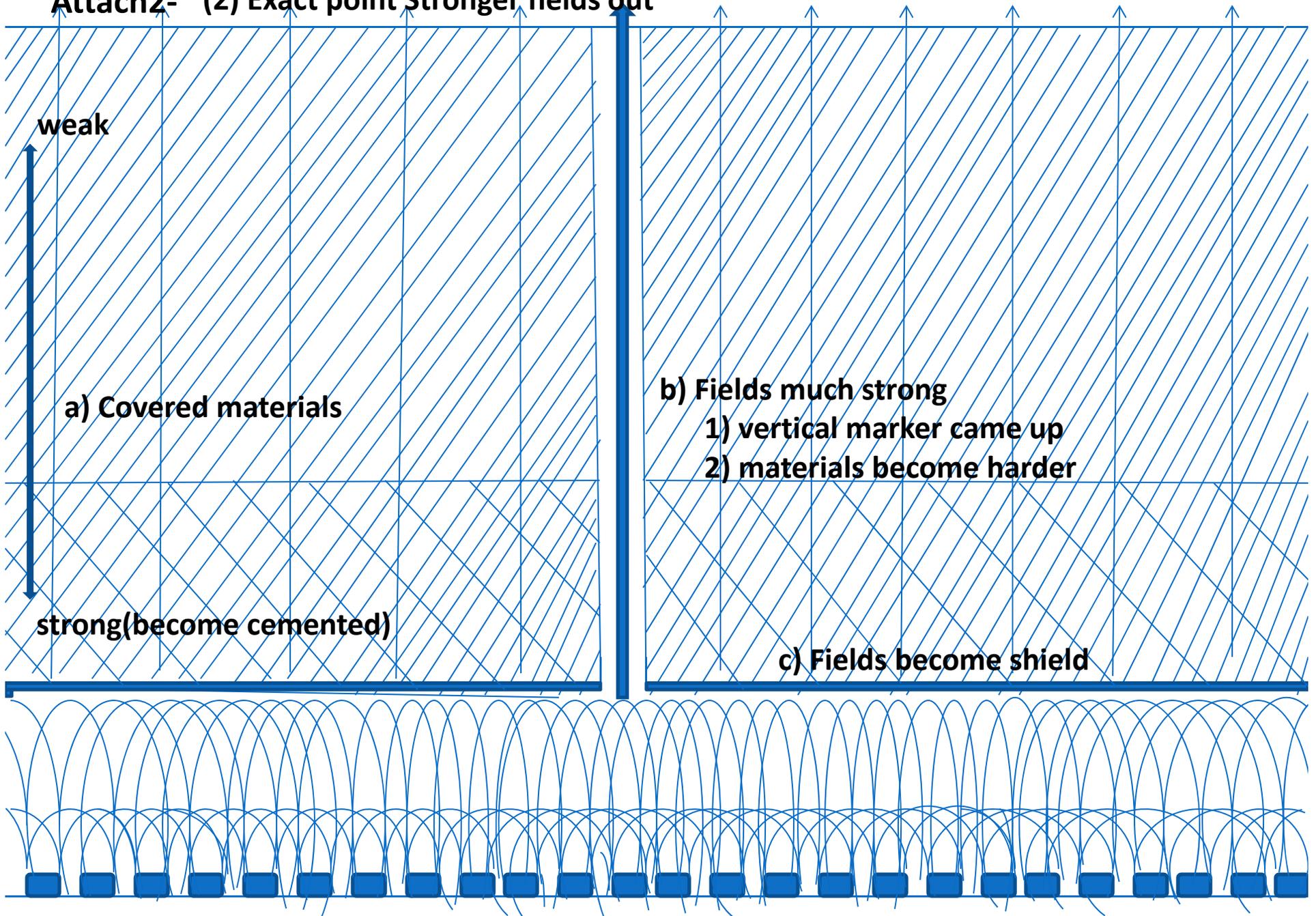


**Attach2 - (1) Fields distance (become wider)**

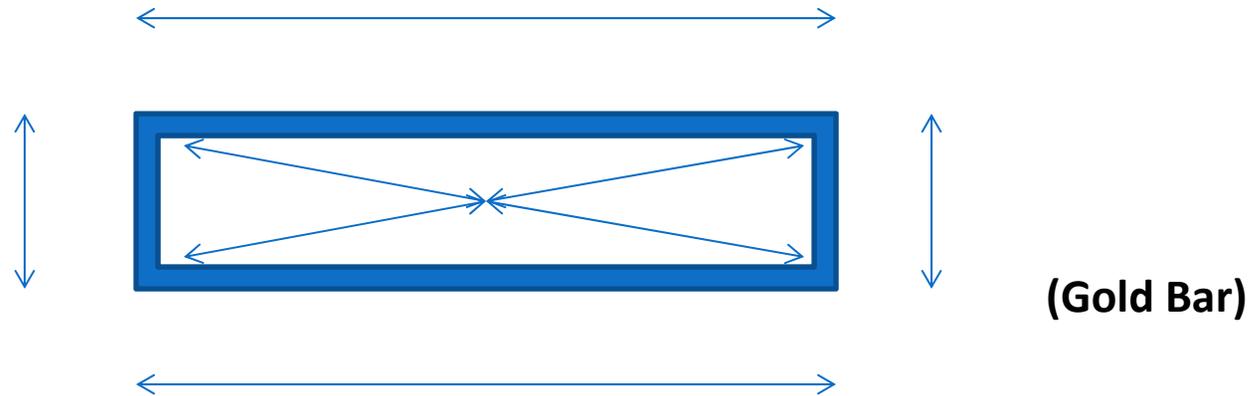
- a) Locator head pointing commodities**
- b) Head actions become stronger (once closer)**
- c) Need to destroy irregular fields**

**a) Locator head contact fields**

## Attach2- (2) Exact point Stronger fields out

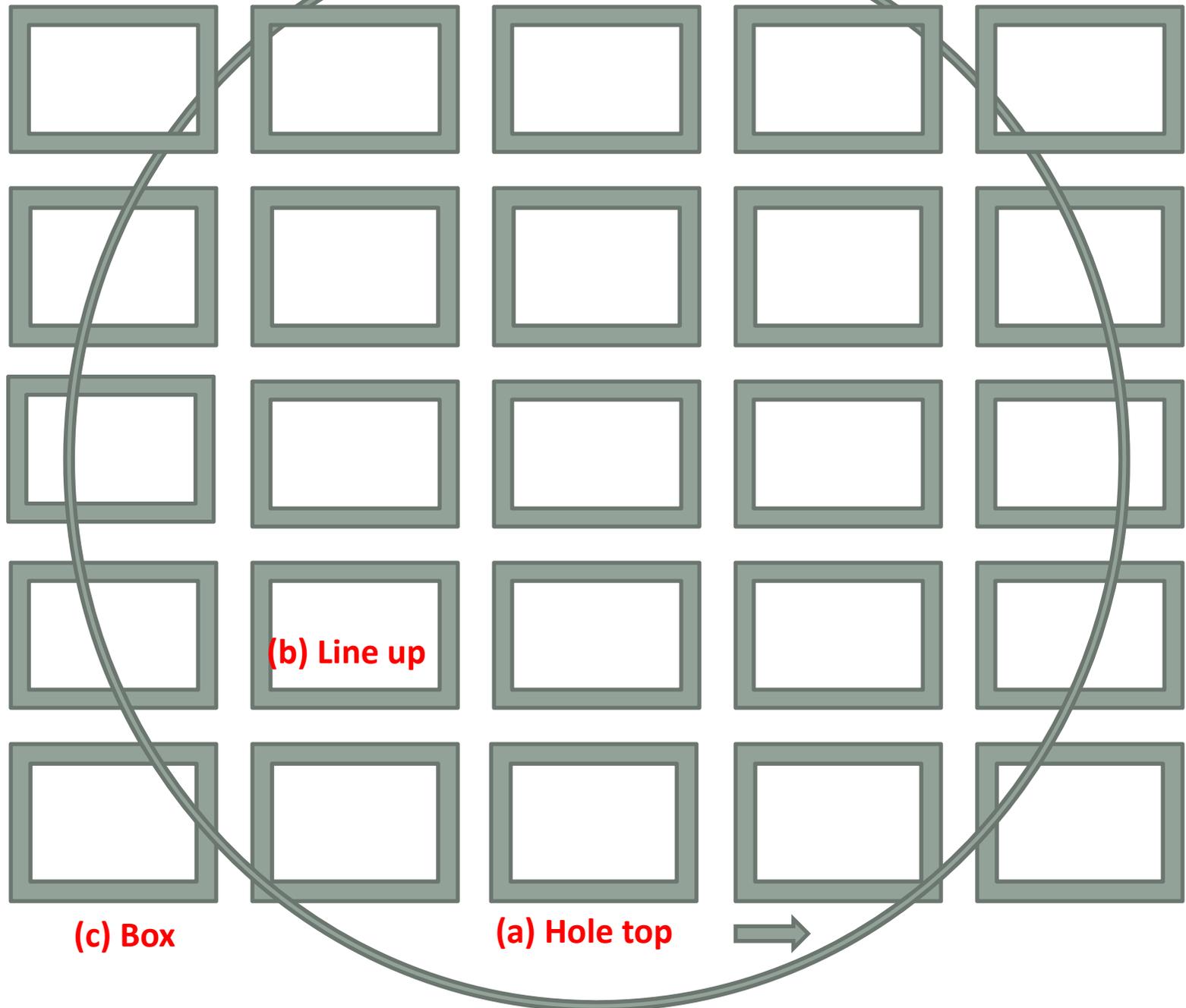


## Attach2 - (3) Locator Action

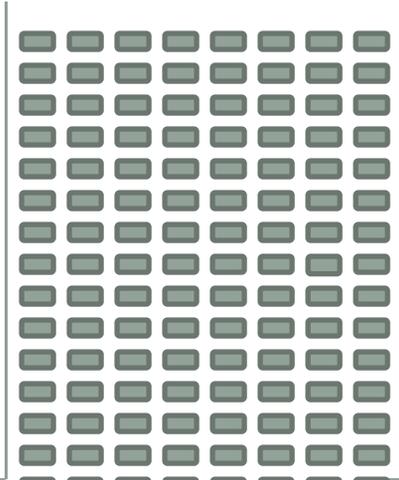


- a) Head cutting size
- b) Head stop corner and center.
- c) Head actions become changing
- d) Head cutting box also line up
- e) Etc.

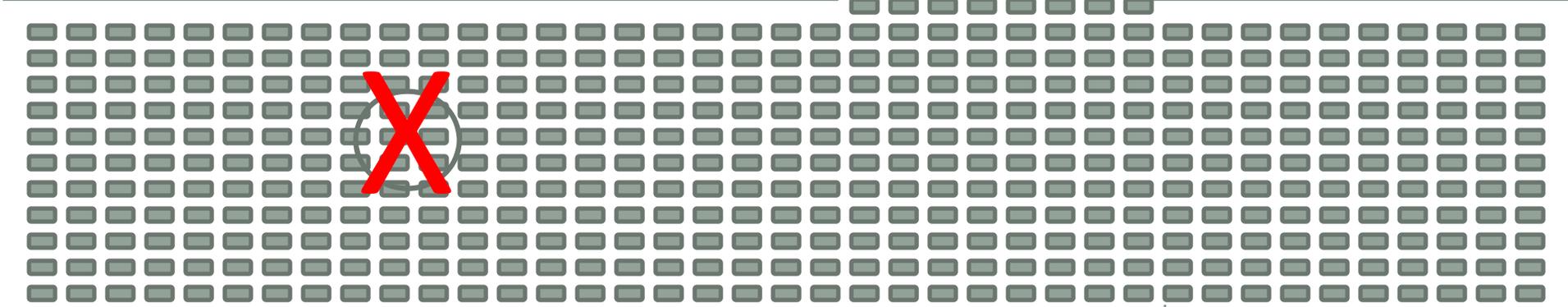
# Attach3- (1) SITE VIEW (Operation Hole)



**Attach3 - (2) LOCATION (SITE)**



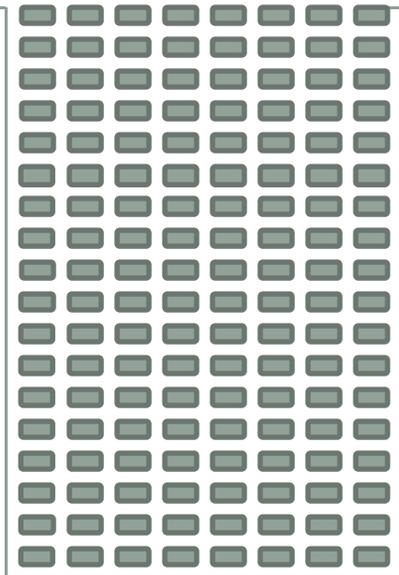
(a)Line up boxes



(b)Operation hole(existing hole)

(1)120ft(40m)deep

(2)Final stage now



**Attach3 - (3)LOCATION SITE(PICTURES)**

**(1)Operation house**



**(2)Operation hole**



**USA never become position NO.2 every categories. ECONOMY, MILITARY, TECHNOLOGY, SCIENCE..evrything.** Only 224years, USA always NO.1. World peace depends on USA. World Economy Depends on USA. But now, balance of the world become decline. Especially, Asia some country become monster. Especially military. That's why, it's so risky reduce National budget. For my opinion, money able to buy technology, innovation. Even weapon, even scientist. So money is the base on everything. Find sure CAPITAL. That's National Security. Most important for future.

---

**Science, maybe able to save our EARTH.** Climate Change( Hurricane, Tornado), Earth Temperature up, Sea level up. Our EARTH is sick now. Which country are able to save? Peoples live in the EARTH, Sick of EARTH become heavy. Because, develop, gas, chemicals.....etc.

**Science, maybe able to innovation new energy.** Some of Middle East OIL producer country oil stocks bottom alrely. Probably, hard to save that country. Maybe, become war? Someday every producer countries will be empty stocks. How to survive future of Energy? USA is NO.1 OIL consumer country in the world. Probably, new technology(Science) will be save. Innovation save future. Use budget for future of all of the world. GET CAPITAL.

**This is proposal find CAPITAL for future of our EARTH, also Recharge US economic engine.** I produce US government for gain US budget (science, innovation, Recharge Economy, also strong Defense).

---

**(1)Target.....**Find Most valuable materials in the world. (I'm specialist for find value commodities also special Locator developer). I detect only GOLD BARS(WW2). Those are hide materials, then only Philippines in the world. Those are hard to find this time. Every countries needs long-run economic growth and strong Defense.

**(2)Attach(1)-(3) files**

**(1) Attach1(3pages).....** FIND SURE CAPITAL(for Recharge economic growth USA, etc)

(1)Deal my technique(know-how) for Detect commodities.

(2)Operation my existing site(final stage now)..UNDER US GOVERNMENT.

**(2)Attach2(3pages).....**Functions of gadget(Developed my gadget)

(1)Detect size of commodities(locator head, cutting GOLD BARS form)

(2)Detect size of box, line up(volumes).

(3)Detect many kinds of magnetic fields, then destroy many irregular fields..

(4)Pointing exact location of deposit. Etc.

**(3)Attach3(3pages).....**Existing operation

(1) Area ..... Rizal province( border of Metro Manila , Philippines)

(2)Conditions.....120FT (40M) deep final stage(confidential operation)

(3)Volume.....5000 TO 10000 TONS (minimum, exactly more)

(4)Value..... 250-500 BUS\$ /AREA(MORE) (minimum)  
(April10,2013... 1575 US\$/troy ounce)

(5)Verify.....Any time able to inspection. There are several area listed already. Need to discussion about that.

ONLY US GOVERNMENT.

---

I'm Japanese man from Philippines. This offer will be long-run growth US economy also saving for future. I want to deal partnership with US government. This is science, technical skill and abilities. I want to use my potentials and experiences. This country is Philippines. But, origin those commodities are not this country own. Story from WW2. But definitely those value are huge. Surely help long-run economy growth any country. Most important is use for good way. How can clean EARTH except budget? I trained almost 17years and find all of know-how of mechanism. I want to joint Democratic leader country. So I contact USA. Then I believe US government use for good way. I hate Communist country

also Muslim country in person. Because situation of world now. How about China, North Korea, Middle east. National Budget always increase, hard to reduce. Any countries needs budget. It's so hard to maintain clean EARTH for future. Get huge CAPITAL ,then use for future.

My situation is not easy now. So please move quickly. Please help advice or assist to me. Today, I send with attached. Please check attached ones. Please response to my e-mail, immediately.

Makoto

ENDORSGN MY NEW PRO GOD THEORY ON  
GEOCENTRISM AND REJECTING THE ANTI GOD  
AND PRO SATANIC THEEORY ON  
HELIOCENTRISM BY THE U.S.PRESIDENT AT  
THE EARLIEST WITHOUT ANY DELAY.

**From:** "S.RAJASEKHAFRAN NAIR" [REDACTED]  
**Date:** Wed, August 21, 2013 9:47 pm  
**To:** pcast@ostp.gov

DEAR OSTP OFFICIALS,

THANKING ALL OF YOU IN ANTICIPATION.

I send this message to you for attract you kind attention towards an urgent matter which is the hand of the U.S. government officials and administrators. But unfortunately I do not get any postal reply or email for and on behalf of my various letter to the White House.

I have some questions.

They are,

1, On what basis NASA did asked me taking out the U.S. patent and send the copy to the NASA's Senior Patent Attorney?

2, On what basis the former Senior Advisor asked me to participate a live interview with the U.S. president for the SOTU 2011?

3, What is behind the inordinate delay after the email reply to me from the U.S. President on 19 October 2011 to endorse my new pro god theory on geocentrism?

4, When will I get the promised but denied grant from NASA? What is behind the Denial of the promised grant to a poor and needy researcher like me.

5, When will i get the final reply of the U.S. president in this matter?

Thanking you

S. Rajasekharan Nair

## Economy Growth Innovation

**From:** "Makoto Yanase" [REDACTED]  
**Date:** Fri, August 23, 2013 12:47 am  
**To:** pcast@ostp.gov

Dear Sir,

I sent my question PCAST several times. I want to joint US government. My proposal is so complex also confidential. Because, my offer involve huge amount of value commodities. Then same time very risky myself. Because, those commodities are able to find(detect) only me. I developed own Detector then 17 years trained detector's actions. That's why, really need to confidential. But only e-mail, it's impossible to believe kind of story. So I sent (contact) several Department and sent my drawings also proposal. If possible please check my e-mail account. Today, I want to ask contact way direct some your representative, if possible. Because best is talk face to face. I have situation here, also there are time limit to contact USA. This is right information. Please check my e-mail address then assist or advice to me. And I'm so afraid contact this country inside. It's so risky this country. I ask direct USA contact. I want to send my proposal by mail. Please response.

Makoto

**USA never become position NO.2 every categories. ECONOMY, MILITARY, TECHNOLOGY, SCIENCE..evrything.** Only 224years, USA always NO.1. World peace depends on USA. World Economy Depends on USA. But now, balance of the world become decline. Especially, Asia some country become monster. Especially military. That's why, it's so risky reduce National budget. For my opinion, money able to buy technology, innovation. Even weapon, even scientist. So money is the base on everything. Find sure CAPITAL. That's National Security. Most important for future.

---

**Science, maybe able to save our EARTH.** Climate Change( Hurricane, Tornado), Earth Temperature up, Sea level up. Our EARTH is sick now. Which country are able to save? Peoples live in the EARTH, Sick of EARTH become heavy. Because, develop, gas, chemicals.....etc.

**Science, maybe able to innovation new energy.** Some of Middle East OIL producer country oil stocks bottom alrely. Probably, hard to save that country. Maybe, become war? Someday every producer countries will be empty stocks. How to survive future of Energy? USA is NO.1 OIL consumer country in the world. Probably, new technology(Science) will be save. Innovation save future. Use budget for future of all of the world. GET CAPITAL.

**This is proposal find CAPITAL for future of our EARTH, also Recharge US economic engine.** I produce US government for gain US budget (science, innovation, Recharge Economy, also strong Defense).

---

**(1)Target.....**Find Most valuable materials in the world. (I'm specialist for find value commodities also special Locator developer). I detect only GOLD BARS(WW2). Those are hide materials, then only Philippines in the world. Those are hard to find this time. Every countries needs long-run economic growth and strong Defense.

**(2)Attach(1)-(3) files**

**(1) Attach1(3pages)..... FIND SURE CAPITAL(for Recharge economic growth USA, etc)**

(1)Deal my technique(know-how) for Detect commodities.

(2)Operation my existing site(final stage now)..UNDER US GOVERNMENT.

**(2)Attach2(3pages).....Functions of gadget(Developed my gadget)**

(1)Detect size of commodities(locator head, cutting GOLD BARS form)

(2)Detect size of box, line up(volumes).

(3)Detect many kinds of magnetic fields, then destroy many irregular fields..

(4)Pointing exact location of deposit. Etc.

**(3)Attach3(3pages).....Existing operation**

(1) Area ..... Rizal province( border of Metro Manila , Philippines)

(2)Conditions.....120FT (40M) deep final stage(confidential operation)

(3)Volume.....5000 TO 10000 TONS (minimum, exactly more)

(4)Value..... 250-500 BUS\$ /AREA(MORE) (minimum)  
(April10,2013... 1575 US\$/troy ounce)

(5)Verify.....Any time able to inspection. There are several area listed already. Need to discussion about that.

ONLY US GOVERNMENT.

---

I'm Japanese man from Philippines. This offer will be long-run growth US economy also saving for future. I want to deal partnership with US government. This is science, technical skill and abilities. I want to use my potentials and experiences. This country is Philippines. But, origin those commodities are not this country own. Story from WW2. But definitely those value are huge. Surely help long-run economy growth any country. Most important is use for good way. How can clean EARTH except budget? I trained almost 17years and find all of know-how of mechanism. I want to joint Democratic leader country. So I contact USA. Then I believe US government use for good way. I hate Communist country

also Muslim country in person. Because situation of world now. How about China, North Korea, Middle east. National Budget always increase, hard to reduce. Any countries needs budget. It's so hard to maintain clean EARTH for future. Get huge CAPITAL ,then use for future.

My situation is not easy now. So please move quickly. Please help advice or assist to me. Today, I send with attached. Please check attached ones. Please response to my e-mail, immediately.

Makoto

# Attach1- (1)

## RECHARGE ECONOMIC NEW ENGINE

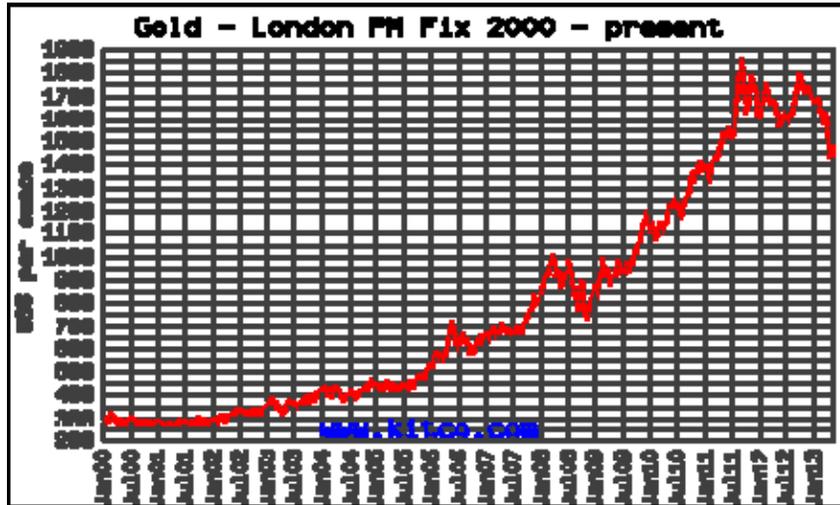
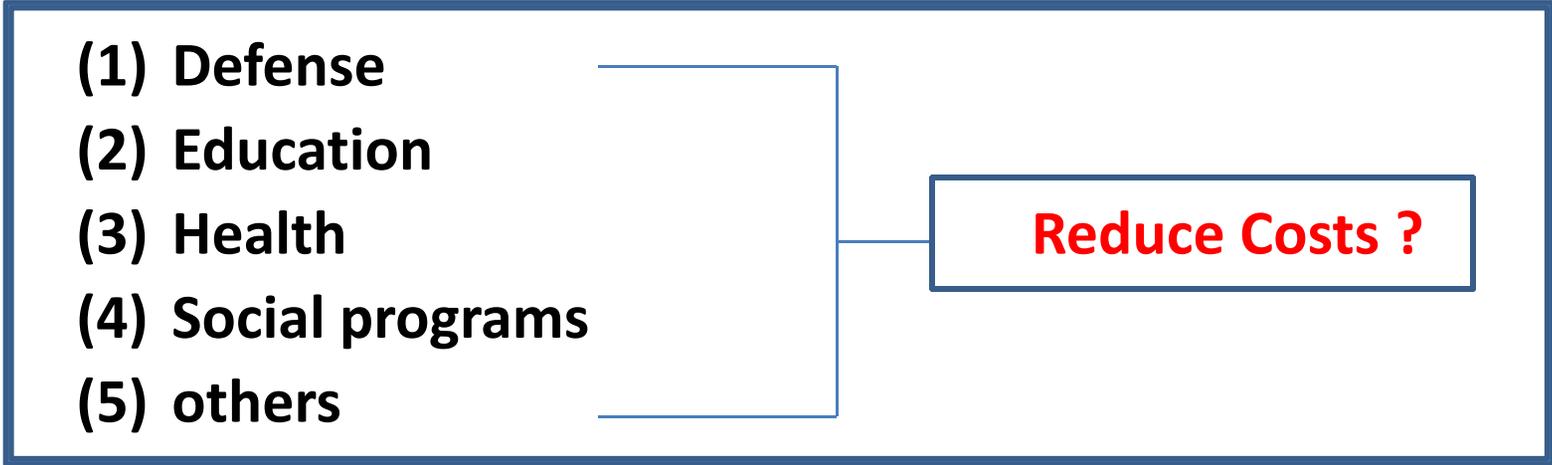
- (1) Innovation business..... No final, continue searching.  
(performance cost , kinds of risk )
- (2) Defense..... Reduce cost  
(risk for USA, also relation countries)
- (3) National Security, etc....
  - (1)Terrorism
  - (2)Energy
  - (3)Climate Change
  - (4)Costs
    - (1)Medical
    - (2)Nature(Hurricane, Tornado, etc)
    - (3)Emergency , etc.
- (4) Education
- (5) **Infrastructure Development**
- (6) **Investments, Manufacturing**



**FIND CAPITAL**  
Natural Resources(Best thing)

# Attach1- (2)

# Economy vs Costs



## Top military spenders

### China's military spending (US\$ billion)



### World's top military spenders, 2011 (US\$ billion)



\*Based on budgeted figures. \*\*Based on projected figures.

Source: Stockholm International Peace Research Institute, Global Security

Attach1- (3)

# Find Most Valuable Materials

**(1)GOLD value increase every year**

(1) 2003 January	356.86	US\$ ounce
(2) 2008 January	889.60	US\$ ounce
(3) 2013 January	<b>1670.95</b>	US\$ ounce

**(2)GOLD is based on Economy always.**

**(3)GOLD is the best materials in the world**

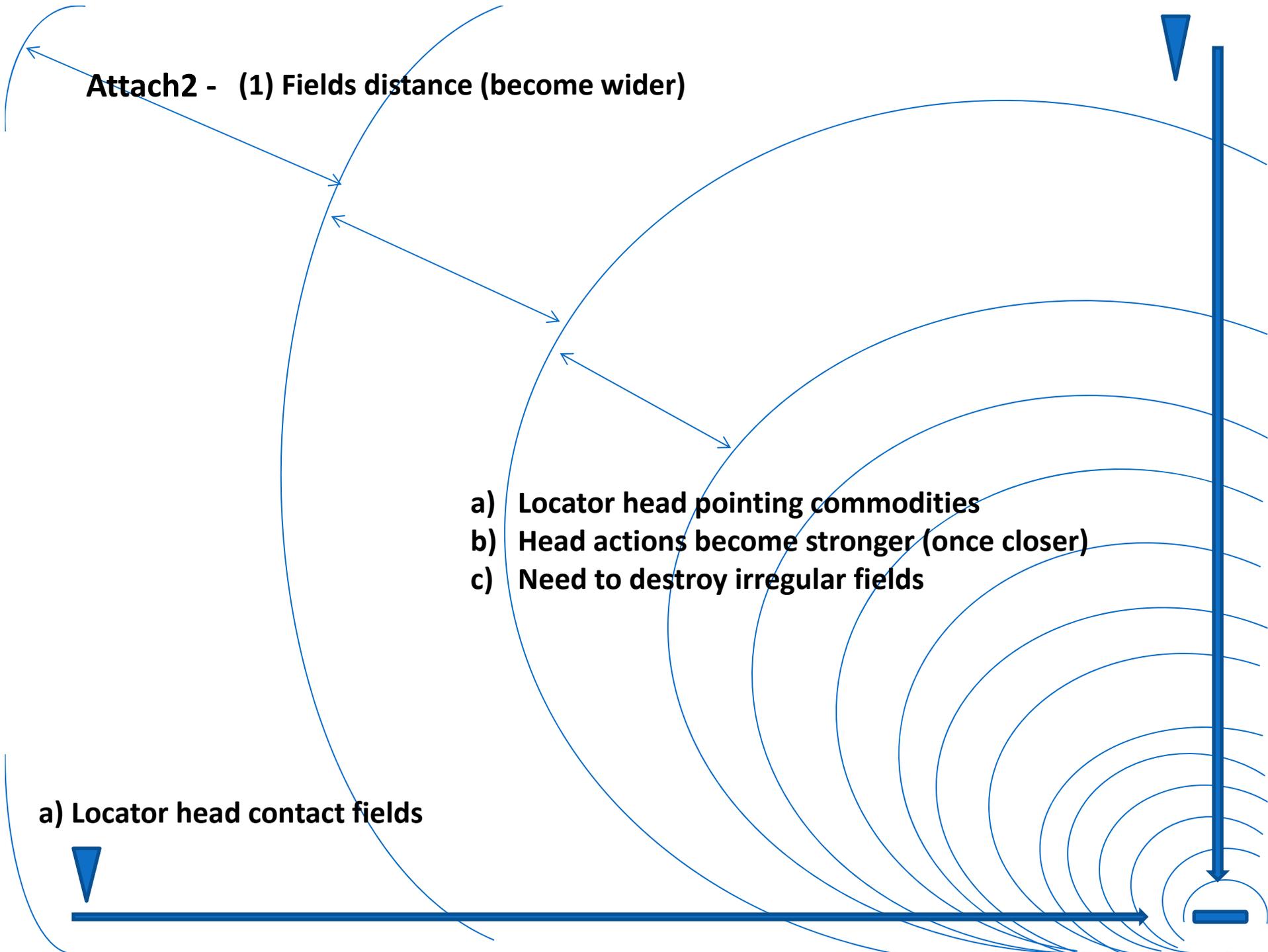


**(Proceed innovation)**

**OIL, Low cost** → **CAPITAL** ← **GOLD**



**GOLD is the most Powerful Recharge New Engine**

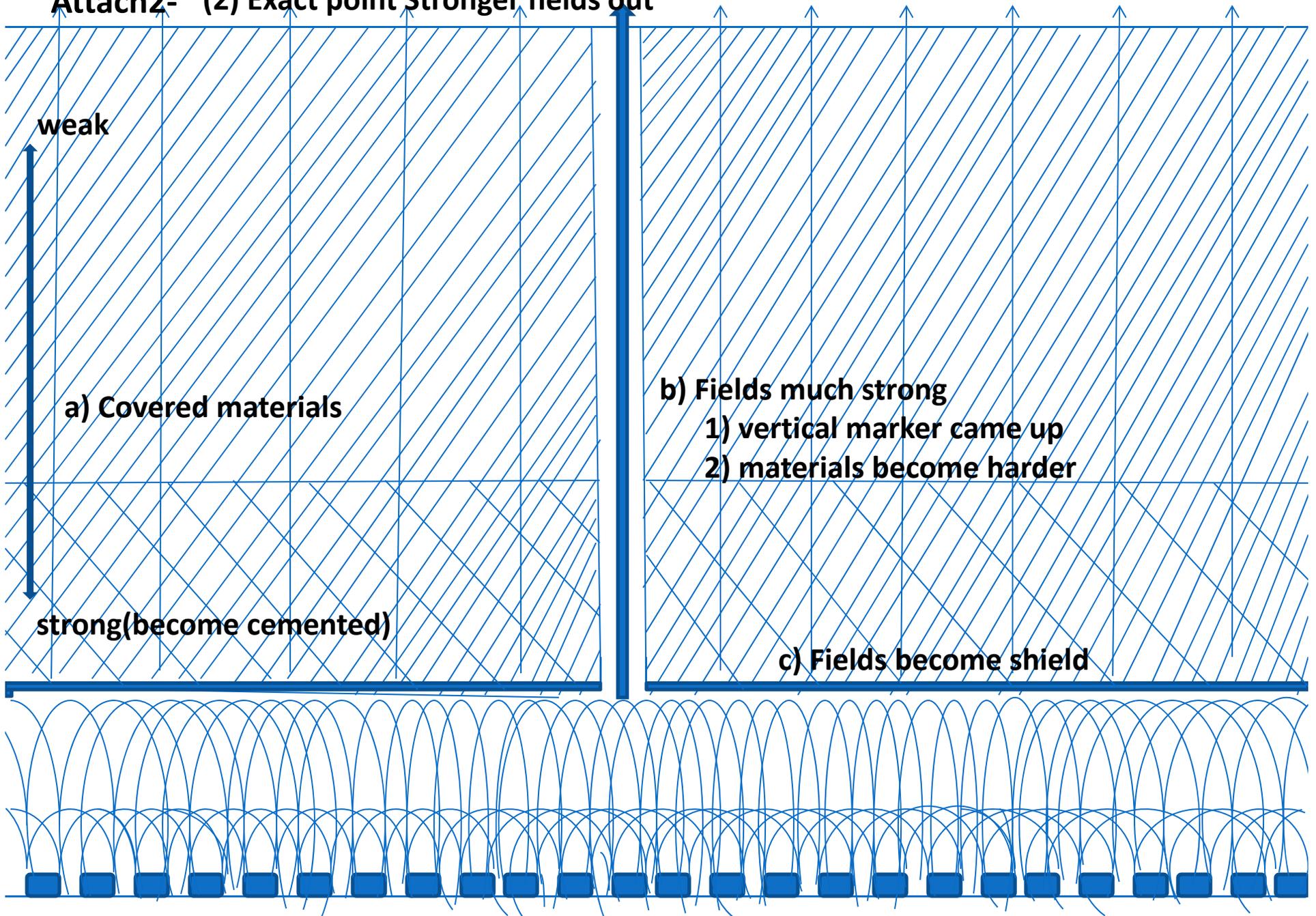


**Attach2 - (1) Fields distance (become wider)**

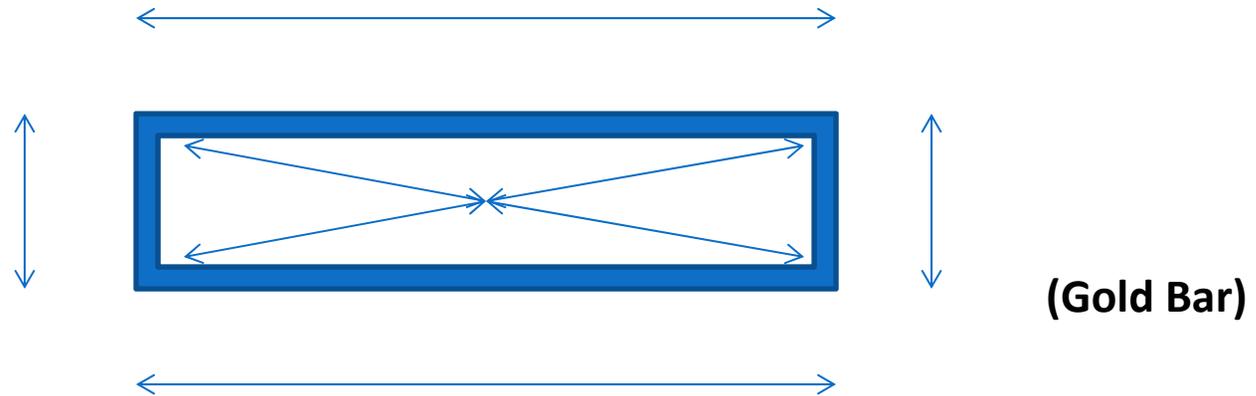
- a) Locator head pointing commodities**
- b) Head actions become stronger (once closer)**
- c) Need to destroy irregular fields**

**a) Locator head contact fields**

## Attach2- (2) Exact point Stronger fields out

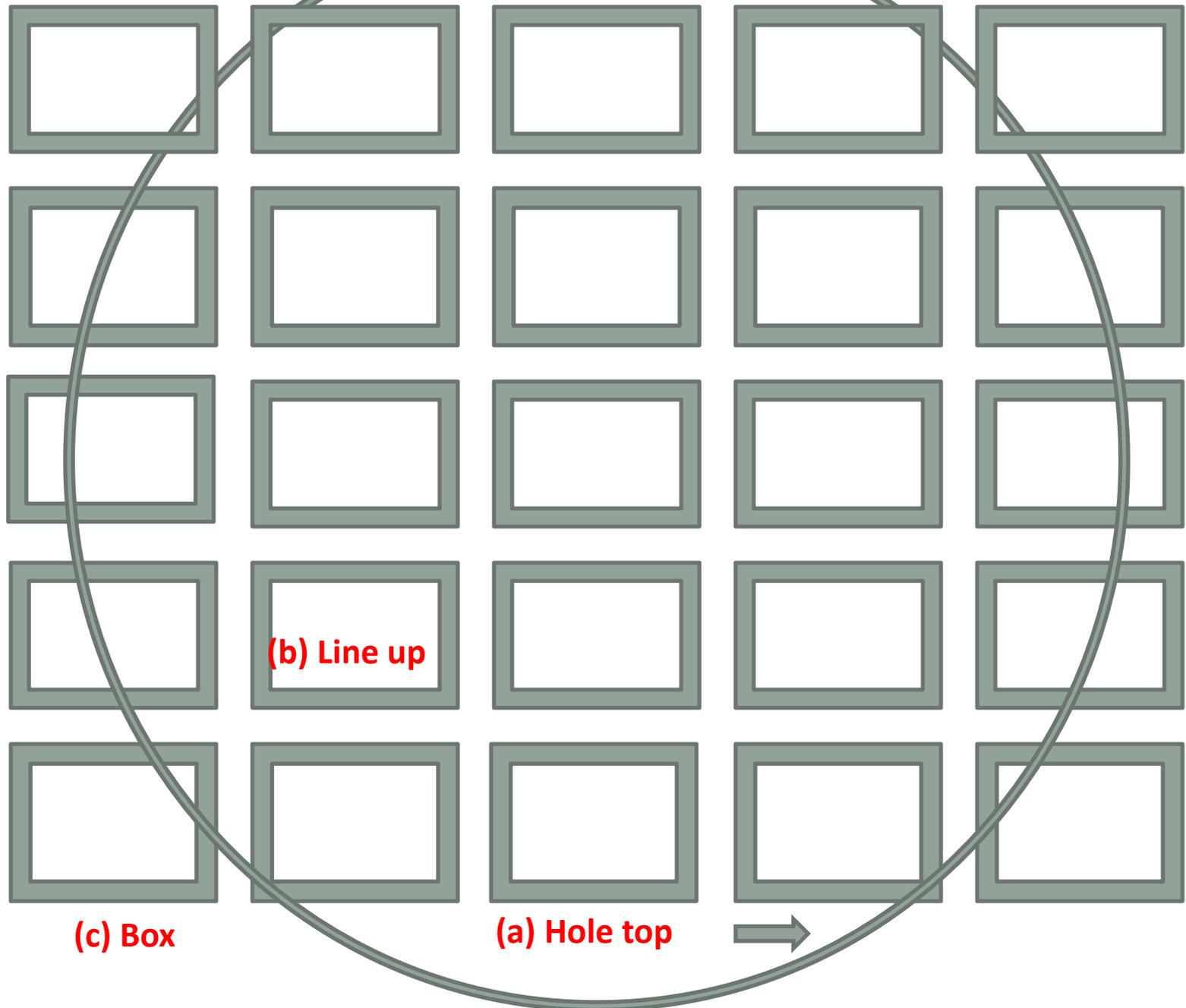


## Attach2 - (3) Locator Action

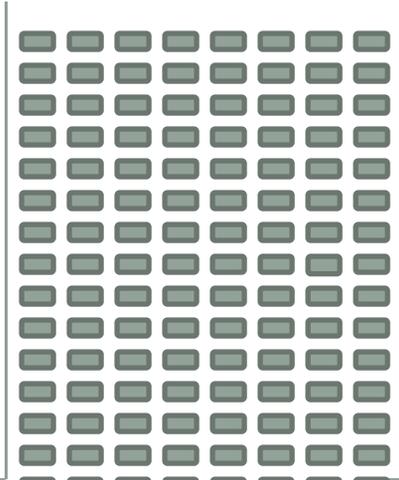


- a) Head cutting size
- b) Head stop corner and center.
- c) Head actions become changing
- d) Head cutting box also line up
- e) Etc.

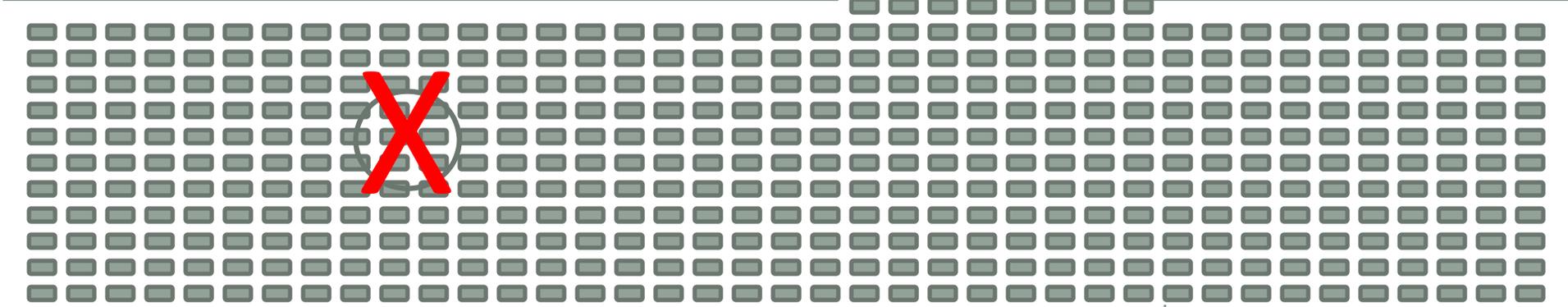
# Attach3- (1) SITE VIEW (Operation Hole)



**Attach3 - (2) LOCATION (SITE)**



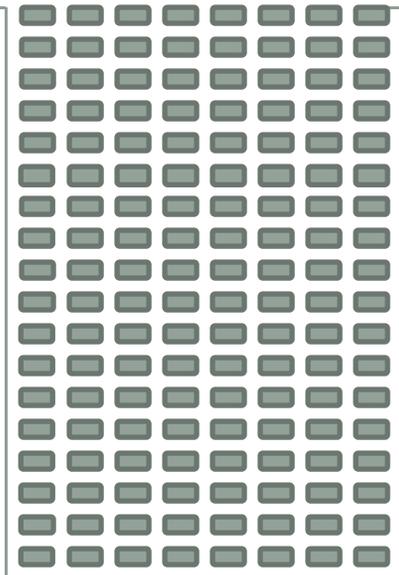
(a) Line up boxes



(b) Operation hole (existing hole)

(1) 120ft (40m) deep

(2) Final stage now



**Attach3 - (3)LOCATION SITE(PICTURES)**

**(1)Operation house**



**(2)Operation hole**



-----Original Message-----

From: Clark Tibbs VHO-PVI-CTA [REDACTED]

Sent: Wednesday, August 28, 2013 4:48 PM

To: [REDACTED]

Subject: [REDACTED] :: LETTER CONTRACT :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & PATENT from Tibbs-VHO

-  
EOP-OSTP - Ms. Knatokie M Ford for the US President [REDACTED] PLEASE PUBLISH

----- Original Message -----

From: Clark Tibbs VHO-PVI-CTA [REDACTED]

[REDACTED]  
Sent: Wednesday, August 28, 2013 4:40 PM

Subject: [REDACTED] :: LETTER CONTRACT :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & PATENT from Tibbs-VHO

PLEASE ASK A CHEMIST TO WATCH THESE VIDEOS AND READ OVER THIS ATTACHED US PATENT ? ... THEN ASK THE CHEMIST TO ADVISE SEC. TOM VILSACK ON THIS MATTER ?

-  
PLEASE MAKE SURE THAT SEC. TOM VILSACK READS THIS INFORMATION, BECAUSE WE NEED A PROMPT DECISION.

-  
CAN WE USE THE FAR "LETTER CONTRACT" ... (AS DOCUMENTED BELOW) FOR THE GOVERNMENT TO PURCHASE THIS PRODUCT ?

-  
Thank you and Regards, Clark Tibbs [REDACTED]

----- Original Message -----

From: Lewis-Murphy, Valerie -FS [REDACTED]

To: Clark Tibbs VHO-PVI-CTA

[REDACTED] Sent: Wednesday, August 28, 2013 4:12 PM

Subject: RE: [REDACTED] USDA-Forest Service :: LETTER CONTRACT :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & PATENT from Tibbs-VHO

Mr. Tibbs. I forward this email with your concerns about the Sequoias in Yosemite to the State and Private Deputy Office. The Deputy's Executive Assistant sent a message stating she will make sure it gets to the proper team.

Thanks

Regards,  
Valerie Lewis-Murphy

USDA Forest Service | Office of the Chief | Sidney Yates Bldg.  
[REDACTED]

[Redacted]

[Redacted] VA) is:

From: Clark Tibbs VHO-PVI-CTA [Redacted]  
Sent: Wednesday, August 28, 2013 3:56 PM  
To: Lewis-Murphy, Valerie -FS  
Subject: [Redacted] :: LETTER CONTRACT :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & PATENT from Tibbs-VHO  
Importance: High

To: [Redacted]

----- Original Message -----

From: Clark Tibbs VHO-PVI-CTA [Redacted]  
[Redacted]

Sent: Wednesday, August 28, 2013 1:04 PM  
Subject: Back to Mike & Elna & Deb at USDA-Forest Service :: LETTER CONTRACT :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & PATENT from Tibbs-VHO

OK .... We will try to find the current GSA Schedule Vendors. You & Mike & Deb [and Others at the Forest Service] ... Please be sure to watch these YouTube Videos near the bottom.

-

QUESTION: If I am able to find said Vendors ... what type of (performance data) do you need to see from this "Water Enhancer" with various Brand Names, which include FRESHANA-PETROTECH [ aka Ethoxylated Sorbitol Septaoleate ] ... for US Forest Service to make a prompt decision to purchase via any of the current GSA Schedule Vendors ??

-

Did any of you get the chance to "confirm value" of this technology via any of the "Chemists" and/or other Fire Experts ... that are currently employed by the US Government ?? ... in light the visual & audio claims in the YouTube Videos near the bottom ??

-

How do you want to proceed, recognizing that Ethoxylated Sorbitol Septaoleate ... may make a substantial fire-fighting advantage ?

-

Where would VHO and partners FedEx ... 3 to 5 gallons of (Concentrated) Ethoxylated Sorbitol Septaoleate ... so the US Government can pour same into a Firetruck (tanker) ... that is currently on the front line of battle against these raging Forestfires ??

-

Is this worth talking with your top leaders to try to expedite this matter ?? I await your answers.

-

MIKE - SPECIAL NOTE: The Government may also initiate a "Letter Contract" [ FAR Clause: 16.603 ] {The priority rating is "extremely high"}

PLEASE SEE: [https://acquisition.gov/far/current/html/Subpart%2016\\_6.html](https://acquisition.gov/far/current/html/Subpart%2016_6.html)

16.603 Letter contracts.

16.603-1 Description.

A letter contract is a written preliminary contractual instrument that authorizes the contractor to begin immediately manufacturing supplies or performing services.

16.603-2 Application.

(a) A letter contract may be used when (1) the Government's interests demand that the contractor be given a binding commitment so that work can start immediately and (2) negotiating a definitive contract is not possible in sufficient time to meet the requirement. However, a letter contract should be as complete and definite as feasible under the circumstances.

(b) When a letter contract award is based on price competition, the contracting officer shall include an overall price ceiling in the letter contract.

(c) Each letter contract shall, as required by the clause at 52.216-25 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115095](https://acquisition.gov/far/current/html/52_216.html#wp1115095)> , Contract Definitization, contain a negotiated definitization schedule including (1) dates for submission of the contractor's price proposal, required certified cost or pricing data and data other than certified cost or pricing data; and, if required, make-or-buy and subcontracting plans, (2) a date for the start of negotiations, and (3) a target date for definitization, which shall be the earliest practicable date for definitization. The schedule will provide for definitization of the contract within 180 days after the date of the letter contract or before completion of 40 percent of the work to be performed, whichever occurs first. However, the contracting officer

may, in extreme cases and according to agency procedures, authorize an additional period. If, after exhausting all reasonable efforts, the contracting officer and the contractor cannot negotiate a definitive contract because of failure to reach agreement as to price or fee, the clause at 52.216-25 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115095](https://acquisition.gov/far/current/html/52_216.html#wp1115095)> requires the contractor to proceed with the work and provides that the contracting officer may, with the approval of the head of the contracting activity, determine a reasonable price or fee in accordance with Subpart 15.4 <[https://acquisition.gov/far/current/html/Subpart%2015\\_4.html#wp1208365](https://acquisition.gov/far/current/html/Subpart%2015_4.html#wp1208365)> and Part 31 <<https://acquisition.gov/far/current/html/FARTOCP31.html#wp253693>> , subject to appeal as provided in the Disputes clause.

(d) The maximum liability of the Government inserted in the clause at 52.216-24 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115089](https://acquisition.gov/far/current/html/52_216.html#wp1115089)> , Limitation of Government Liability, shall be the estimated amount necessary to cover the contractor's requirements for funds before definitization. However, it shall not exceed 50 percent of the estimated cost of the definitive contract unless approved in advance by the official that authorized the letter contract.

(e) The contracting officer shall assign a priority rating to the letter contract if it is appropriate under 11.604 <[https://acquisition.gov/far/current/html/Subpart%2011\\_6.html#wp1081671](https://acquisition.gov/far/current/html/Subpart%2011_6.html#wp1081671)> .

#### 16.603-3 Limitations.

A letter contract may be used only after the head of the contracting activity or a designee determines in writing that no other contract is suitable. Letter contracts shall not-

(a) Commit the Government to a definitive contract in excess of the funds available at the time the letter contract is executed;

(b) Be entered into without competition when competition is required by Part 6 <<https://acquisition.gov/far/current/html/FARTOCP06.html#wp280339>> ; or

(c) Be amended to satisfy a new requirement unless that requirement is inseparable from the existing letter contract. Any such amendment is subject to the same requirements and limitations as a new letter contract.

#### 16.603-4 Contract clauses.

(a) The contracting officer shall include in each letter contract the clauses required by this regulation for the type of definitive contract contemplated and any additional clauses known to be appropriate for it.

(b) In addition, the contracting officer shall insert the following clauses in solicitations and contracts when a letter contract is contemplated:

(1) The clause at 52.216-23 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115084](https://acquisition.gov/far/current/html/52_216.html#wp1115084)> , Execution and Commencement of Work, except that this clause may be omitted from letter contracts awarded on SF 26 <<https://acquisition.gov/far/current/html/FormsStandard7.html#wp1189341>> ;

(2) The clause at 52.216-24 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115089](https://acquisition.gov/far/current/html/52_216.html#wp1115089)> , Limitation of Government Liability, with dollar amounts completed in a manner consistent with 16.603-2 <[https://acquisition.gov/far/current/html/Subpart%2016\\_6.html#wp1080974](https://acquisition.gov/far/current/html/Subpart%2016_6.html#wp1080974)> (d); and

(3) The clause at 52.216-25 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115095](https://acquisition.gov/far/current/html/52_216.html#wp1115095)> , Contract Definitization, with its paragraph (b) completed in a manner consistent with 16.603-2 <[https://acquisition.gov/far/current/html/Subpart%2016\\_6.html#wp1080974](https://acquisition.gov/far/current/html/Subpart%2016_6.html#wp1080974)> (c). If at the time of entering into the letter contract, the contracting officer knows that the definitive contract will be based on adequate price competition or will otherwise meet the criteria of 15.403-1 <[https://acquisition.gov/far/current/html/Subpart%2015\\_4.html#wp1208385](https://acquisition.gov/far/current/html/Subpart%2015_4.html#wp1208385)> for not requiring submission of certified cost or pricing data, the words "and certified cost or pricing data in accordance with FAR 15.408, Table 15-2 supporting its proposal" may be deleted from paragraph (a) of the clause. If the letter contract is being awarded on the basis of price competition, the contracting officer shall use the clause with its Alternate I.

(c) The contracting officer shall also insert the clause at 52.216-26 <[https://acquisition.gov/far/current/html/52\\_216.html#wp1115118](https://acquisition.gov/far/current/html/52_216.html#wp1115118)> , Payments of Allowable Costs Before Definitization, in solicitations and contracts if a cost-reimbursement definitive contract is contemplated, unless the acquisition involves conversion, alteration, or repair of ships.

-

Thank you and Regards, Clark Tibbs 

-----

----- Original Message -----



Sent: Wednesday, August 28, 2013 11:10 AM

Subject: RE:  Contracting Officer-USDA-Forest Service  
:: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & US PATENT from Tibbs-  
PhageVax & VHO

OK, I found some information for you. Go to the following website pasted below, go to the bottom of the page and

Find GSA eLibrary

click on Wildland Fire Equipment

Click on Firefighting Products

Click on Category 465.11, which will list the companies that sell foams and gels on GSA Advantage.

Good Luck.

[https://www.gsadvantage.gov/advantage/main/start\\_page.do](https://www.gsadvantage.gov/advantage/main/start_page.do)

Do not click on Wildland Fire Products on this page as this is only a list of products needed for fire camps.

Elna E. Black  
USDA, Forest Service  
National Interagency Fire Center

From: Clark Tibbs VHO-PVI-CTA [REDACTED]  
Sent: Tuesday, August 27, 2013 4:56 PM

[REDACTED]

Subject: [REDACTED] USDA-Forest  
Service :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & US PATENT from Tibbs-  
PhageVax & VHO

Importance: High

TO:

Mr. Mike McFarlane [REDACTED]  
Contracting Officer

[REDACTED]

[REDACTED]  
Ref: <http://www.fs.fed.us/fire/contracting/retardant/retardant.htm>

-

Hello Mr. McFarlane & Assistant,

-

Please supply the list of current GSA Schedule holders, so that our company can partner with same ?

-

Regards, Clark Tibbs [REDACTED]

-

-

----- Original Message -----

From: Clark Tibbs VHO-PVI-CTA [REDACTED]

To: [REDACTED]

[REDACTED]

Sent: Tuesday, August 27, 2013 5:59 PM

Subject: [REDACTED] USDA-Forest Service :: Your  
Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & US PATENT from Tibbs-PhageVax &  
VHO

27 August 2013 ... as the fires rage on.

-

TO:

Ms. Deb Wesselius [REDACTED]  
Buyer of Fire-Control Related Products for USDA-Forest Service

[REDACTED]  
-

Thank you for taking my call. Please see the Important YouTube Videos at the bottom of this page, as proof of value of the Ethoxylated Sorbitol Septaoleate.

-

You said that our company needs to be the a GSA Schedule to sell this product to you.

-

Please supply the list of current GSA Schedule holders, so that our company can partner with same ?

-

Regards, Clark Tibbs [REDACTED]

-

-

----- Original Message -----

From: Clark Tibbs VHO-PVI-CTA [REDACTED]



Sent: Sunday, August 25, 2013 5:36 PM

Subject: To USDA-Forest Service & DOI-BLM :: Your Need for "Better Fire Control" = FRESHANA-PETROTECH Videos & US PATENT from Tibbs-PhageVax & VHO

TO:

Dr. David L. Peterson [REDACTED]

U.S. Forest Service - Pacific Wildland Fire Sciences Lab  
[REDACTED]

[Redacted]

-

Title: The Spatial and Temporal Impacts of Mechanical Fuel Treatments on Wildfire Hazard Ratings in Colorado

Authors: Robert J. Huggett, Jr., Wayne Shepperdb, Karen Abt

Affiliations: Forestry Sciences Laboratory, Southern Research Station

[Redacted]

-

Dr. Karen Abt [Redacted]

Dr. Jeff Prestemon [Redacted]

[Redacted]

-

Dr. Toddi Steelman [Redacted]

[Redacted]

-

Chief's Office Staff - USDA Forest Service

Tom Tidwell [Redacted]

Mary Wagner [Redacted]

Tim DeCoster [Redacted]

Tina Bailey [Redacted]

Kim Walton [Redacted]

Helen Cortes [Redacted]

Bonita Tyler [Redacted]

Valerie Lewis-Murphey [Redacted]

[Redacted]

-and-

Bill Hargrove [Redacted]

[Redacted]

-

Tim Murphy - BLM of DOI Assistant Director, Office of Fire and Aviation

[Redacted]

Office of the Assistant Director <[http://www.blm.gov/wo/st/en/info/directory/WO-400\\_dir.html](http://www.blm.gov/wo/st/en/info/directory/WO-400_dir.html)>

<http://www.blm.gov/wo/st/en/info/directory.html>  
<<http://www.blm.gov/wo/st/en/info/directory.html>>

-

Sally Jewell, Secretary of Interior - Department of the Interior

-

Neil Kornze, Principal Deputy Director - BLM Washington Office

-

Joan Guilfoyle, Division Chief - Division of Wild Horses and Burros

-

Amy Leuders, Nevada State Director - Bureau of Land Management

-

Jill Silvey, District Manager - Bureau of Land Management

-

Gene Seidlitz, District Manager - Bureau of Land Management - Winnemucca District Office

-

Jeff Ulrich, District Ranger - U.S. Forest Service - Humboldt-Toiyabe National Forest

-

Ladies & Gentlemen:

-

Please see:

TECHNICAL PRODUCT BULLETIN #SW-21

USEPA, OIL PROGRAM CENTER

ORIGINAL LISTING DATE: MARCH 2, 1998

"PETROTECH 25"

<http://www.epa.gov/osweroe1/content/ncp/products/petrotec.htm>

-

PLEASE READ OVER THIS ATTACHED US PATENT AND PLEASE WATCH THE VIDEOS, NEAR THE BOTTOM OF THIS PAGE.

-

YOU CAN ORDER SAMPLES OF THE FRESHANA-PETROTECH VIA CLARK TIBBS [REDACTED]

-

YOU CAN ALSO ORDER TANKER-LOADS OF FRESHANA-PETROTECH VIA CLARK TIBBS [REDACTED]

-

I HOPE TO HEAR FROM YOU VERY SOON. The nation's forest fires are out-of-control, as you know.

-

Clark Tibbs

-

-

We hope to hear from you all very soon.

-

Regards, Clark Tibbs [REDACTED]

-

-

=====

-

PLEASE NOTE:

The Freshana Brand (aka Petrotech) molecule is easily reproducible:  
Ethoxylated Sorbitol Septaoleate (a sugar) ... comes from Sugarcane Juice and/or other natural feedstocks.

-

Below are real-life video demonstrations of Petrotech in use.  
While Petrotech may be used for fire control, oil remediation and odor control, the enclosed videos demonstrations show Petrotech being used to extinguish fuel fires and oil remediation.

PetroTech Extinguishes Jet Fuel Fire in Seconds

<http://www.youtube.com/watch?v=2ptyRQOdpgv> <<http://www.youtube.com/watch?v=2ptyRQOdpgv>>

-

Oil Spill Clean-Up at Sea:  
(Explanation of Encapsulation & enabling of natural bacterial hydrocarbon-degradation)  
<http://www.youtube.com/watch?v=IGcDorQgR14>

Oil Spill Clean-Up on Land: <http://www.youtube.com/watch?v=t1VePk0n-Pc>  
<<http://www.youtube.com/watch?v=t1VePk0n-Pc>>

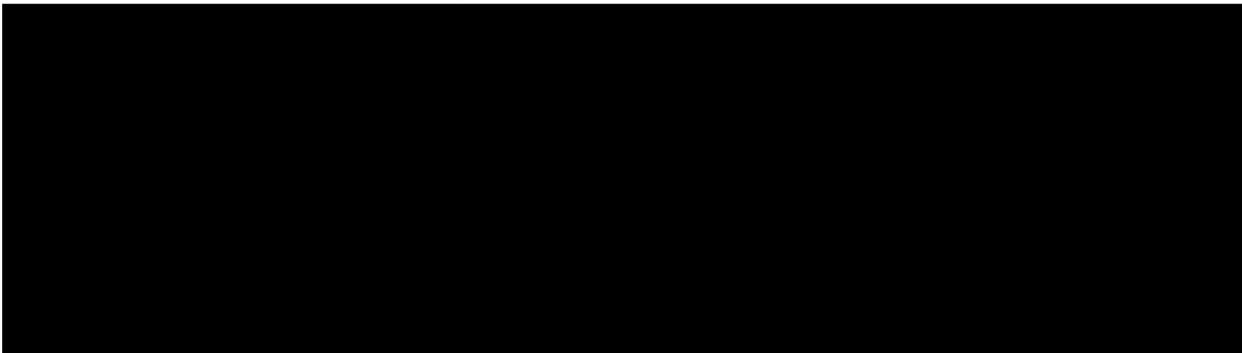
-  
U.S. DoD Oil Tanker Clean-Out (in Georgia, USA):  
<http://www.youtube.com/watch?v=s62HdrjZtnI> <<http://www.youtube.com/watch?v=s62HdrjZtnI>>

-  
The Freshana Brand (aka Petrotech) Product is listed on the US EPA's "List Of Approved Products".

-  
Please confirm that you have received (and understand the chemistry of) the Attached US Patent for the Petrotech Product ?

-  
Regards and Thank you !

-  
Clark Tibbs  
Vertical Horizons One, Inc.



(c) Copyright 2001-13 VHO, Inc. All Rights Reserved

This message is confidential and is VHO legally privileged. If you are not the intended recipient, you should not disclose, copy or use any part of it - then delete all copies immediately & notify VHO, Inc. by replying to this email. Any information contained in this message (including attachments) is given by the author. They are not given on behalf of VHO, Inc. unless confirmed by VHO, Inc.

**FROM** white house

**From:** "S.RAJASEKHAFRAN NAIR" [REDACTED]

**Date:** Thu, August 29, 2013 12:20 pm

**To:** pcast@ostp.gov

DEAR OSTP DIRECTOR

Here attach my letter for your study, consideration and action.

Thanking all of you.

S.Rajasekharan Nair

1

**FROM**

**THANNEERMUKKAM**

**26 AUGUST 2013.**

S.RAJASEKHARAN NAIR

(OMANAKKUTTAN)

THOOMBUNKAL(WARD:8)

(EDATHIPPARAMBIL)

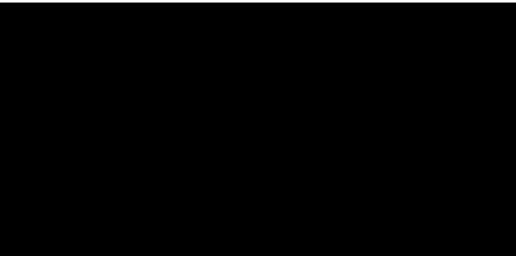
THANNEERMUKKAM.P.O

CHERTHALA THALUK

ALAPPUZHA DISTRICT

KERALAM STATE

INDIA

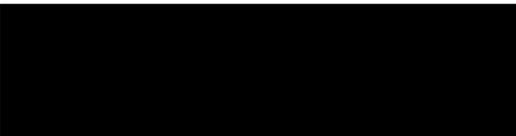


**TO**

SREE ERNEST MONIZ

ENERGY SECRETARY

THE WHITE HOUSE



UNITED STATES OF AMERICA.

SUBJECT: SEEKING THE ENERGY SECRETARY'S HELP FOR GETTING THE FINAL APPROVAL OF THE U.S.PRESIDENT THROUGH AN EXECUTIVE ORDER OR OTHER APPROPRIATE ACTION TO ENDORSE MY NEW PRO GOD DISCOVERY ON GEOCENTRISM BY THE U.S.PRESIDENT ON THE BASIS OF HIS EMAIL REPLY TO ME ON 19 OCTOBER 2011 AND EMAIL REPLY FROM THE ENERGY SECRETARY ON 29 MAY 2013 IN ACCORDANCE WITH AMERICA'S NATIONAL SLOGAN "IN GOD WE TRUST".

REFERENCE:I, My 6 unsolicited proposals to NASA and 2 letters to the NASA General Counsel Office and NASA's 6 letters and 3email replies.

2, My letter and enclosures to the U.S. President on 5 February 2010.

3, E mail from Sree David Plouffe on 26 January 2011 for participating in a live question answer SOTU programme with the U.S. President

4, The U.S President's Twitter question answer programme on July 6 2011.

5, The U.S. President's email reply to me on 19 October 2011.

6, An invitation for the SOTU 2012.

7, My Email to the USA.gov on 26 May 2012.

8, USA. gov inquiry (#141197) reply to me on 27 May 2012.

9, My Fax message to the U.S. President on 4 June 2012.

10, My Speed Post letter to the U.S. President on 27 July 2012.

11, My Fax message to the White House on 2 October 2012

12, My letter and enclosures By Speed Post to the U.S. President on 14 November 2012.

13, My letter and enclosures to the U.S. First Lady by Registered post on 21 January 2013.

14, My Registered letter and enclosures to the U.S. President, Vice President Secretary To the U.S. President and The Senior Adviser on January 25 delivered on February 11, 2013. ( But the former Advisors letter returned to me and arrived here on 18 April 2013.)

15, My 13 letters to the various office bearers of the White House and 1 letter to the Organising For Action on 24 April 2013.

16, E mail reply from the Energy Secretary on 29 May 2013.

17, My several emails to the First Family, the Secretary to the U.S. President the Energy Secretary, Senior Advisers etc:

Dear Moniz,

I am writing this letter to you to attract your kind attention towards my new Pro God discovery on Geocentrism which occupies the mind of the US President and the Energy secretary.

I am a clerk in the District Employment Exchange at Alappuzha. I am 50 years old. My date of birth is 2 October 1963. My monthly salary is the only income of my family and it is so meager. So I took many loans, advances, gold pawns, etc: for my research purposes. Thus I need a grant from NASA or other U.S. government departments. The denial of grant by NASA gave me a great deal of agony and a severe pain like a bomb explosion or a Tsunami.

NASA asked me to take out the U.S Patent and send the copy for the licence purposes to the Senior Patent Attorney in 2008 July and in 2009 January. For a very poor Indian like me, it is very

positive and surprising or astonishing but the denial of the grant by NASA is so negative and a depressive and embarrassing action.

Born and brought up in rented houses with poverty, lack of money and utter loneliness. I belong to a poor family. So I could not apply for the US patent and send the copy to NASA. Therefore I had sent a letter seeking the maximum help of the US President at the earliest in 2010 February 5 by Speed Post.

But unfortunately or my bad luck, till date I have not got the expected and deserved help from the US President or the US government. All of my letters etc: which I sent to the White House for that purpose could not solicit any response. I did not get any reply for all these letters by Registered Post and Speed Post. I only got some casual reply from the office of the Energy Secretary.

I do not know what is behind the inordinate delay for the endorsement by the US President. In my opinion the US President is the most suitable person under the Sun to declare before the world that our Earth is a static one or stationary and the Sun god is moving around the Earth in a time bound manner. It is due to the static position of the Earth that we can live like this. You can see all of my findings in my own Unsolicited Proposals to NASA Ames Research Center and NASA Goddard Space Flight Center.

I would like to ask some questions about the Rotation and Revolution of the Earth, (Heliocentrism) Globe Position, Gravity etc:

1, If the revolution of the Earth is true, why does not the Sun rise and set in all the 8 major directions for a period of 45-46 days in a year?

According to the Scientists the present day and night are happening due to the Rotation and Revolution of the Earth through its revolutionary path from the West of the Sun to the East of the Sun (via) North Direction of the Sun. This questions the belief in the Gravitational Force.

2, If it is true, how much distance in Kilo Meter the Earth has passes through its revolutionary path after the Big Bang from the West of the Sun to the East of the Sun (via) North direction of the Sun God?

3, How can we call these types of movements as Revolution? Revolution means moving around.

4, If the above type of movement of the Earth is true, how do we say the Earth is moving around its star the Sun in 365.25 days?

No one can identify or establish the movement of the Earth in the East, South or the West directions of Sun God.

5, If the rotation of the Earth is in clockwise manner is true, how do we see the present type of the Sun rise and set?

Because if the Earth's rotation is in clock wise is true there is no chance for the present Sun rises and sets in all the countries. If the clockwise Rotation and Revolution of the Earth is true, there is no chance for the present Sun rise. After seeing the Sun in the East of Japan, the Sun must rise in the Pacific Ocean, West of American continents, Europe, Africa, Asia and Australia etc:

Most of the scientists always say that the Earth rotates and revolves in clockwise manner. But the occurrence of rotation is in anti clockwise manner. There is no revolution of the Earth.

6, If the rotation of the Earth is true, how can we pre determine the distance and fare by air before the journey?

7, If the Rotation of the earth is true how does heavy rain happen in some places and some are affecting drought at the same time?

According to me there is no chance or possibility for it. If the rotation of the earth is in clockwise or anti clockwise, any of the Civil Aviation, Airport, Air force, Navy, Army, and Space Research Organisations etc: cannot determine or calculate the distance and fare before the journey. Only the Pilot of the plane can calculate the distance and fare after landing the plane like a taxi vehicle on a road.

The missiles are 2 types Guided or unguided. Guided missiles travel through the predetermined path. The unguided missiles travel like the rockets of a fireworks show at a celebration or a festival.

If the rotation of the Earth is true, there is no possibility for the hitting of both the guided and unguided missiles upon its destination. Because if the rotation of the earth is true, the Earth must pass at more than 1600 k/m in 1 hour on its own imaginary axis.

An unguided missile Inter Continental Ballistic Missile (ICBM) 12600 K/M distance wants or needs more than 30 minutes for its launching, travelling, and hitting. In this time the earth moves on its own axis more than 800 K/M in 30minutes. Therefore the ICBM may fall into another nation. All of the successful experiments of the missiles reveals the truth ie the Earth is static or motionless.

All the scientists in the world like a moving Earth instead of a static Earth. They are incessantly trying their best to make many false stories about the rotation and revolution of the Earth.

If the Globe Position of the Earth is true, how can we determine the height of the various geographic features or locations which are situated in all the Continents?

Can anybody say Which Nation is situated on the top and bottom of the Earth?

#### WHAT IS THE REAL FACT

The real factor is that our own Earth is static and all the other planets include the Sun God is moving around the Earth in a time bound manner through their own revolutionary path. What is happening in all the days? In all the days the Sun God is moving around the Earth in a time bound manner through its revolutionary path. No one can deny it.

Most of the westerners have no penance, chanting holy mantras (the sacred words of Vedas) meditation etc:. But unfortunately due to the lack of it and the Divine Knowledge Sree Copernicus, Sree Galileo Galilee etc: were misunderstood that the Geocentrism is false and the Heliocentrism is true. They got success in wiping out the truth and well establishing their false discovery.

Sree Ptolomey's discovery is also false. According to him all the planets are moving around not only the Earth but also moving around the Sun God. No doubt it is a false discovery or belief. The

Moon god is not a mere satellite but a planet God. All the present belief about the Moon is false. 28 days are not the time for his revolution around the Earth but an interval between a full Moon to another Full Moon. It is another truth .

We are having a similar time schedule in all the days. The GMT Schedule is continuing without any big changes. If the Revolution of the Earth is true ,how we get a similar time schedule for all the days?

If the Revolution of the Earth is true, there is happening one thing. The Earth must move from the North East to South East (via) East of the Sun and West of the Sun (via) South. If it happens how the Sun rises in the East of the Japan in all days? How can we call Japan is the land of the Rising Sun in all the days?

America's National Slogan is "IN GOD WE TRUST". The theory of the Big bang, `Heliocentrism, and Darwinism etc: strongly and vehemently oppose or reject the belief of the God or The Almighty. Because all these theories strongly and powerfully uphold the belief of the Materialism. At present there is no scope or hope for the word the GOD or THE ALMIGHTY.

A very wealthy and strong nation like USA proclaimed before the world that "IN GOD WE TRUST". This is very good and positive about the believers of God. But unfortunately the same Governments each and every important scientific departments and organisations or foundations are trying their best to boost the belief of materialism in the name of the science. No doubt , this is very bad and negative. The denial of the promised grant by NASA is a very good example for it.

We can construct Buildings, Roads, Bridge's, Rail, and Dams etc: are happening due to the static position of the Earth.

If the Earth moves, we cannot walk, run ,jump ,sit, lie, sleep, eat ,bath, write, read, ride vehicles through land, sea or air. We cannot resist, or prevent the motion and the force due to the movement of the Earth. We can conduct all type of experiments ,launching ,landing and splashdown planes or spacecrafts etc: are happening due to the static or the motionless position of the Earth.

This is the truth and fact. No one can deny it or oppose it. But unfortunately knowingly or unknowingly most of the thinking people and unthinking people are living in a static Earth firmly believe their static Earth is like a moving bus or train etc:'

These false beliefs must be wiped out from the world is necessary for establishing the existence of the God or the Almighty .For these purpose I approached NASA and the White House .But due to my bad luck till date I do not or cannot get a clear reply like the static Earth or the moving Sun.

According to the US Supreme Court there is no discrimination between Invention and Discovery. The court further says that a Truth is always a Truth and accept it or give recognition for it without any delay." Not consider Who says but consider only What he says". These kinds of judgement always uphold the Belief of the God.

India's National Slogan is "SATHYAMEVA JAYATHE" means TRUTH ALONE TRIUMPHS. But unfortunately no one can get patent for Discovery. Discovery is the creation of the Almighty and invention is the creation of humans.

These findings are so suitable for me, Because I am a poor Indian living in a rented house with full of debts from my early childhood to this 50 years old. My date of birth is 2 October 1963.

Can I expect the US Presidential approval before my next birth day?

Here many are mocking and pooh-poohing me. They include my colleagues, neighbours and relatives are questioning the genuineness of the U.S. President's reply. This is too much. How can I suffer it? An inordinate delay is happening from the part of the US government. This is real cause behind the mocking.

Here are the questions I would like to ask

1, On what basis did the Grants Officer of NASA Ames Research Center had written to me in 2008 July that all other questions regarding your proposal be addressed to NASA General Counsel at NASA Headquarters Office of the General Counsel, Washington?

2, On what basis did NASA's Senior Patent Attorney Sree Robert.F.Rotella ask me to taking out U.S. Patent and send the copy and offer a license to NASA in July 2008 and January 2009 for entering in to a contract or an agreement?

3, On what basis did the Contract Specialist of NASA Goddard Space Flight Center, Sree Tracie Hill write to me that my discoveries were patented?

4, If it is true, Why Sree Rotella repeat his 2008 reply again in 2009? Who got the patent for all of my new discoveries rejecting the Bing Bang, Heliocentrism, Globe Position, Gravitational force and the Darwinism?

5, Is it that the Senior Patent Attorney did not get any knowledge about the Patent Holder or His name and also my Pro God discovery on Geocentrism?

6, Do you or can you consider it is a suitable and remarkable approach to a poor Indian researcher like me?

7, What is NASA's interest? The Ultimate truth of Geocentrism continues to be in the darkness as a light in a pot?

8, IS my new pro God discovery on Geocentrism need a U.S. patent to get the approval or the endorsement of the US president?

9, Is the US patent inevitable for the truth revealing discovery which lift or endorse the belief of God and also correct or lift off the NATIONAL SLOGAN OF THE US "IN GOD WE TRUST"?

10, When will I get the grant promised by NASA's Senior Patent Attorney in 2008 and 2009 and denied by Goddard Space Flight Center in 2009 and Ames Research Center in 2010?

11,If I am not eligible for the grant ,on what basis or why did NASA's Senior Patent Attorney had sent 2 times the letter and brochure to submit an Un solicited Proposal for Grant and enter in to a contract or an agreement?

12, Am I eligible for a grant is true, why not give it to me at the earliest ie today itself?

13,Why don't you give any reply to me for my all letters ,fax, and email except the usual response from the office of the Energy Secretary?

14, How long the review of the Energy department continues? Can I expect the final reply for my 50 birthday in 2 October 2013?

I think that Grants officer's 2008 reply and Senior Patent Attorney's reply to me came after the study and research of the proposal or theory about the Geocentrism etc..

15,My question is that Why did NASA reject my proposal for Grant?

16,What is behind the in ordinate delay of the endorsement for my new pro god discovery on Geocentrism by the US President?

17,Does NASA or the Energy department or the White House have no role or leniency towards the ultimate truth revealing discovery of mine?

18,On what basis did the then Senior Adviser to the US President ask me through his email to participate in a live interview with the US President for the SOTU 2011?

19,If I was able or I could participate in that live interview with the President ,does my new Pro God discovery get the Presidential approval through an Executive order or Presidential Proclamation?

After the invitation for the SOTU(State Of The Union Address ) in 2011 January, Twitter Question answer programme in July 2011,E mail reply from the US President on 19,October 2011 and e mail reply from the Energy Secretary on 29 May 2013 my new pro God discovery is continuing as hidden like a lamp in a pot.

20,What is behind the inordinate delay for getting the formal and final approval( from the US President) after the above programmes and replies?

21,On what basis did the Grant Officer of NASA Ames Research Center California reject my unsolicited proposal for the grant on the ground that I am a foreign individual not an organisation?

22, Didn't the Senior Patent Attorney of NASA possess knowledge about that I am a poor single person not an organisation?

23,Why don't the NASA Ames Research Center give me any more reply for my proposals to reject the Big Bang, Heliocentrism and Darwinism which I sent in 2010 and the number is 6544?

I hope that if you need more time, you will give me the promised but denied grant by NASA,as very early as possible. Because my wife Sreemathi Ajitha was admitted and required a

Key hole surgery for Appendicitis on 6 August 2013. The total amount of the surgery and its allied expenses is 33000 Indian Rupees which is equal to nearly 660 U.S. Dollar. In India most of the people have no health or life insurance. My family has no health insurance. Therefore I pawned my wedding ring and an ornament of my daughter Gopika Nair for meet the hospital expenses.

So I hope that you may consider it and allow me a grant first and give endorsement on or before my next Birth Day on 2 October 2013.

Therefore I humbly request you that you may consider it very urgently and do the needful for the Endorsement of the US president for and on behalf of my scientific, real, and daily happening the new pro God discovery on Geocentrism etc: at the earliest, failing which please consider sanctioning a sizable amount as interim relief pending clearance of the promised grant

No doubt, my discovery can turn upside down most of the false and unscientific beliefs deemed as scientific belief and may wipe out most of the evils from the world eternally and also get a good and eternal fame, supremacy etc: for America for ever. And it also can give a world recognition for the National Slogan of America "IN GOD WE TRUST" which is very true and 100% correct.

Thanking all of you once again

S.Rajasekharan Nair

(S.Omanakkuttan)

NB: SREE OR SREEMATHI ARE SAMSKRITHAM (SANSKRIT) WORDS WHICH REVEAL ONE'S UTMOST RESPECT TO ANOTHER PERSON WITHOUT ANY CLASS OR CREED.

ENCLOSURES.

1, COPY OF NASA'S LETTERS .

2, COPY OF U.S.PRESIDENT'S EMAIL REPLY.

3 , COPY OF ENERGY SECRETARY'S EMAIL REPLY.