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To: "Dr. Baruch Fischhoff - Chair, National Academy of Sciences Study on Social & Behavioral Science and Improving Intelligence for National Security" <baruch@cmu.edu>

From: Lloyd Etheredge <lloyd.etheredge@policyscience.net>

**Subject: The Combinatorial Thinking + Grand Strategy = Change the World chapter**

Dear Dr. Fischhoff and Colleagues:

We are in an exciting historical period where our intelligence community can observe new technologies and trends and imagine how they can be combined to provide new solutions and accelerate progress.

If we want rapid learning - improvements in intelligence that will link-through to increased US effectiveness/impact - what's missing probably is combinatorial thinking. If you can write a chapter to address the problem, I think that it will benefit all of us.

- This Grand Strategy challenge reframes part of your assignment, which was conventionally phrased to focus on upgrades of data systems and analysis methods. Combinatorial thinking - which includes combining different ideas using imaginative skills - *is* built upon analysis (the ability to decompose reality into its constituent elements and processes, in an engineering sense) - but combinatorial thinking is not typically learned in courses that focus upon data analysis. Specifically - since the rapid rise of low-cost, many-to-many global communications technology is a new ingredient to analyze in world politics - the challenge to your Study is like facing a world in which gunpowder has just been invented and advising people who still think about national security as upgrading databases and analysis methods for catapult technologies. The new analysis task extends, de facto, to imaginative, creative, combinatorial thinking.

**Four Examples**

There is an abundance of examples of fresh, combinatorial thinking on the [www.policyscience.net](http://www.policyscience.net) Website. Here are four illustrations of how the intelligence community's capacity for combinatorial thinking can improve the institutional flow

of ideas and analysis to President Obama's desk:

1.) CCC initiatives. On the [www.policyscience.net](http://www.policyscience.net) Website [at I. B. # 6] you will see an earlier discussion of the CCC idea in the context of improving global public health. This project also can be imagined as a solution (from an unexpected dimension) to the Obama Administration's "connect the dots" need to link the analysis of youth bulge/youth unemployment UDCs and terrorism to innovative experiments and solutions. And it is a good idea in a context where the existing repertoire of USAID/World Bank projects have not worked.

2.) Global, Consumer-Oriented Health. Another bold, "change the world," opportunity that will come to life when the dots are connected are suggestions for the CSIS Smart Global Health Policy Commission [reference copies on [www.policyscience.net](http://www.policyscience.net) at I. B.] - i.e. the suggestion [#1], "Would a Free Global Television Channel Help?" In this case, the pieces that need to be combined - by some institutional process - include: reframing questions from mass markets (to summed niche markets); knowledge about the existence of USIA's mostly unknown global television channel and satellite capacity that can be used for digital links; a commitment to global health (rather than American national interest, conventionally defined); and a broader conception of how to build American power/leadership in a "smart" framework that moves beyond the conventional national security thinking of the Bush (and earlier) eras, etc.

The best that I can do is to write a concept paper . . . How government institutions can do this kind of combinatorial thinking [and all of these "dots" are known in different places in the Executive branch] and produce a better policy is one of the challenges that I hope your Report will address for Admiral Blair.

3.) Inventions Wanted . . . " Attached is another example of accelerating global scientific innovation about urgent problems via an "Inventions Wanted . . ." global weekly brownbag. The project ("An Experiment to Accelerate Scientific Progress") is beyond the institutional capacities of the World Academy [to whom the paper was originally submitted] but could get underway via inspired leadership by the Obama Administration if the intelligence/analysis/forecasting system can, via your Report, develop a capacity to recognize emerging opportunities beyond conventional thinking.

4.) Rapid Global Development of Conflict Resolution Skills. A fourth ex-

ample is a project to develop a global curriculum, beginning in public secondary schools, using psychology and empathy to build an understanding of conflict and a degree of composure and skill in managing conflicts. This is essential in robust and energetic democratic processes. [They are the kinds of skills that President Obama developed naturally and as a community organizer in Chicago and legislator.] Discrimination and injustice are ubiquitous in the world: Without these respected alternatives, idealistic youth and the forces of political change [especially in countries with less democratic and responsive governments] may be channeled into violence.

The vision is easy - in one sense - in the age of a global Internet. You are trying to build a global movement and curriculum materials to support teachers and educational systems, worldwide, who want to participate. It also would be easy to imagine a weekly global colloquium series, perhaps organized by the American Psychological Association (which has a division of peace psychology) with its international equivalent (the International Union of Psychological Science) and participation by the US Institute of Peace (also in Washington) to interview and acknowledge leaders in the growing movement from around the world, showcase materials, develop resources and ideas, and communicate the excitement of the vision and the growing movement.

[There are traditional, legalistic approaches to topics like conflict and human rights. A psychologically-based approach is especially suited to youth-bulge cultures, since teenagers respond naturally to psychology and questions of relationships. A curriculum that begins with basic neuroscience (e.g., ideas about identities, survival mechanisms, listening and understanding where other people are coming from, etc.) could be a contribution to stronger, healthier, and more mature adults and evolving UDC polities that are less violent.]

May I - in the context of your Report - draw a connection from this fourth illustration to what is missing in the National Intelligence Council's Global 2025? Global 2025 is silent about measuring and forecasting the development of empathy and conflict management skills in youth cohorts. But we need a national intelligence system that can conceptualize/recognize this kind of variable as an active ingredient, and alert President Obama to good ideas - using emerging technologies - about adding small doses of this kind of nutrient to the soil in which the future of the world political system will grow.

Lloyd Etheredge

Dr. Lloyd S. Etheredge - Fellow, World Academy of Art & Science  
Director - Government Learning Project  
Policy Sciences Center Inc.  
127 Wall St., Room 322 - Box 208215  
New Haven, CT 06520-8215  
URL: [www.policyscience.net](http://www.policyscience.net)  
301-365-5241 (v); [lloyd.etheredge@policyscience.net](mailto:lloyd.etheredge@policyscience.net);  
[lloyd.etheredge@aya.yale.edu](mailto:lloyd.etheredge@aya.yale.edu) (email)