

# CATALOGING THE PATH TO A NEW DARK AGE: a taxonomy of the Bush administration's pervasive crusade against scientific communication

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*There are known knowns. These are things we know that we know.  
There are known unknowns. That is to say, there are things that we  
know we don't know. But there are also unknown unknowns. There  
are things we don't know we don't know. Donald Rumsfeld*

It is somewhat ironic that another Bush (Dr. Vannevar Bush) created the present system of federal support for basic scientific research for the public good, for “the improvement of National health, creation of new enterprises by bringing new jobs, and the betterment of the national standard of living” as directed by Franklin D. Roosevelt, after World War II (Klaphaak, 1996). However, the present (George W.) Bush and his administration have persistently attempted to disrupt and alter this dynamic of science in the interests of the public. His administration has “resisted sound scientific evidence on global warming, largely ignored consensus science in the reproductive area as well as stem-cell research” and is “using science, or its version of science, that suits them [religious right, business interests] and has a propensity for secrecy and misrepresentation” (Kevles, 2006). This resistance to scientific evidence and propensity for secrecy create perfect conditions for a new Dark Age.

The Bush Administration's crusade began the afternoon of January 20, 2001 and not, as many people assume, after 9/11. It began with the issuance of Chief of Staff Andrew Card's “Regulatory Review Plan” memorandum (Committee on Governmental Affairs, 2002). This plan stated that no regulation, rule or announcement of inquiry that might lead to a rule

may be published in the *Federal Register* without first being cleared by the department head appointed by the President. Exceptions would be allowed but the person who would clear exceptions was the Director of the Office of Management and Budget. Thus all regulations or inquiries leading to regulations to be issued by executive departments such as the Environmental Protection Agency or the Food and Drug Administration must be cleared by the politician in charge. This action, among others, is more extensive than those of any other administration (Kevles, 2006; Nesmith, 2007, Shulman, 2006; Wise, 2006).

Many reports have appeared in print and on the web documenting this phenomenon, especially with global warming, stem cell research, and closings of the EPA libraries. Books have been written and the American Civil Liberties Union, the Union of Concerned Scientists (UCS) and the National Coalition Against Censorship have all issued reports. The UCS report "A to Z Guide to Political Interference in Science" illustrates the widespread nature of this phenomenon by creating a website that uses the periodic table as an organizing principle (Union of Concerned Scientists [UCS], 2006).

We are taking a different approach by creating a taxonomy based on the outline in Figure 1 (Parrott, 2004) and cataloging examples of disruptive actions by the Bush Administration affecting scientific communication. The utility of the taxonomy is in revealing the way in which each individual action interferes and distorts the entire process. This interference represents a danger to scientific information in the public interest that lingers long after policy decisions based on this flawed approach are reversed.

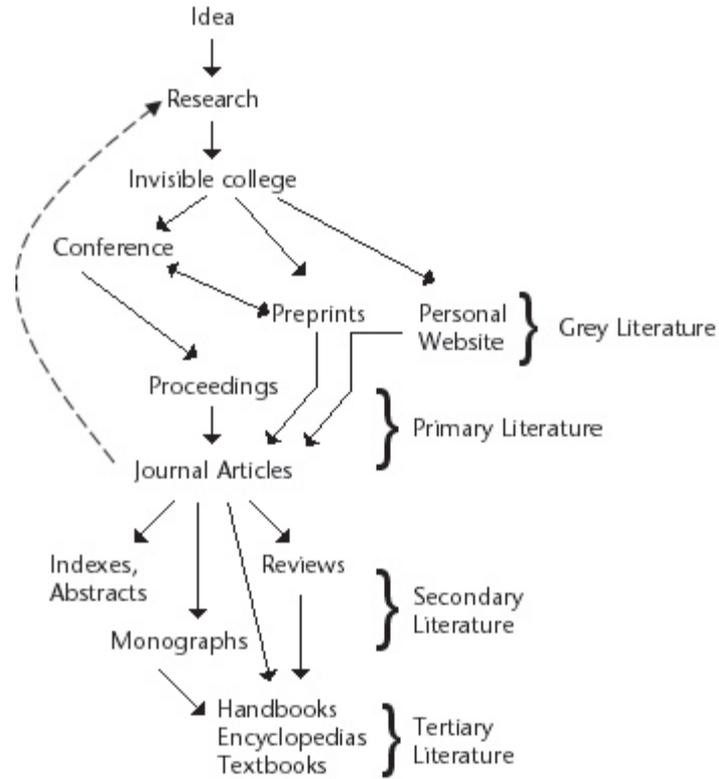
The definition of science is "a system of knowledge covering general truths or the operation of general laws especially obtained and tested through the scientific method" (Merriam-Webster, n.d.). Figure 1 outlines the scientific method as the flow, revision, and dissemination of scientific information as noted below.

#### *Flow of Information*

We use the diagram on the next page to establish eight categories for purposes of this paper: Ideas, Research, Invisible College, Conferences, Grey Literature, Primary Literature, Secondary Literature and Tertiary Literature. The dashed line indicates a feedback mechanism where scientists repeat and duplicate results. This step validates the research and builds consensus. Despite the headlines in newspapers on "breakthrough" research, no newly published report is considered validated until repeated by others over time.

Under each heading, specific instances illustrate how the Bush Administration has interrupted scientific inquiry, the scientific process and information flow. These instances should not be construed as a complete

Figure 1 (Parrott, 2004)



list but as salient examples. Many cases where science was ignored in policy decisions, but not altered, are not included. Also, more and more cases are revealed every day and we leave those to be classified at a later date.

#### *Ideas*

We placed the collection of data under the heading of ideas because it is frequently the source of inspiration and is not labeled separately in Fig. 1.

#### Orbital Debris Data

NASA has long shared its database of the orbits of satellites including the debris associated with them with the public, but this information is now restricted to only those who submit an application and are approved. There

is a warning to all who visit the NASA website to apply, stating there is no expectation of privacy. “By continuing you consent to your keystrokes and data content being monitored” (Space-Track.org, 2004). If allowed access to the data, you may not share it as part of your research without permission of the Department of Defense. Therefore to publish requires two levels of permission.

#### Climate Satellites

Reportage concerning cuts to NASA’s budgets on vital satellites to monitor climate change quotes a NASA Administrator: “while global warming is changing Earth’s climate,” he is not convinced it is “a problem we [NASA] must wrestle with.” He continued, “I guess I would ask which human beings – where and when – are to be accorded the privilege of deciding that this particular climate that we have right here today, right now, is the best climate for all other human beings.” This provoked outcry and NASA’s top official on climate change said that “It was a shocking statement because of the level of ignorance it indicated in regard to the current situation,” concluding that this attitude explained the severe cuts in NASA’s climate satellites and other earth-science areas (Kaufman, June 1, 2007). NASA’s earth science budget has been cut 30% since 2000, and will decline more to support the manned missions to Moon and Mars in the future (Kaufman, January 16, 2007).

#### *Research*

#### Airborne Antibiotic-resistant Bacteria

A research microbiologist found antibiotic-resistant bacteria in the air around corporate hog farms, but reported to the Union of Concerned Scientists that he was prevented from publicizing his research at least 11 times by the U.S. Department of Agriculture because it concerned itself with human health which the USDA claimed was not within his purview. A collaborator on the research stated that the research made no extravagant claims, but was simply a measurement of airborne compounds. It seems that USDA administrators recognized the importance of the measurement to human health, and then used that fact to suppress discussion (UCS, *Airborne*, August 10, 2005)

#### *Invisible College*

The “invisible college” (informal scientific communications) in the U.S. has always been enriched by a large number of foreign-born researchers and students. Many of the students contribute to major research endeavors as graduate students and then stay on to direct their own programs. Other foreign scientists join our universities and industries for fellowships or sabbaticals that enrich our research as well as their own. However, this free movement of scholars across our borders has been made much more difficult, and not just in areas that would seem obviously to touch on national security.

### Technical Alert List

During the struggle to keep secrets from the Soviets, the State Department created a list of academic areas that merited special scrutiny because of their utility in developing weapons. This Technology Alert List has now been expanded from areas such as atomic physics to landscape architecture, urban design and environmental planning. This is according to the latest published list which was available in 2002. However, the list itself has now been classified so we cannot verify whether an area is included or not (Simoncelli, 2005). Here's the Freedom of Information Act statement from the State Department:

Revision of Technology Alert List (TAL): The TAL is Sensitive But Unclassified (SBU), and it can be found on the Office of Directives Management Classnet site, as well as the Consular Affairs Classnet site. It is vital it not/not be posted on the public internet, be provided to non U.S. Government personnel, or otherwise reach public domain. (U.S. Dept. of State, 2006)

### Visa Mantis

A Visa Mantis designation is for a special level of clearance deemed necessary for someone who will be studying in a "sensitive" area such as everything named on the TAL. It is up to the Consular Officer to determine whether or not a visa applicant's course of study or research falls within the sensitive areas. Many universities now include information about the process that emphasizes that they cannot help the applicant if it is determined the delay on their visa relates to the TAL. A Visa Mantis takes longer than a regular visa, is much more intrusive and depends entirely on the understanding and judgment of the Consular Officer that happens to be processing the visas that day (BusinessWeek.com, 2006).

### Travel Approvals

The Union of Concerned Scientists reports that the Department of Health and Human Service (DHHS) implemented a plan whereby approval by the Department must be obtained before any scientist takes part in panels convened by organizations of the United Nations. The Department's justification for making the politically appointed DHHS Director of the Global Health Affairs the gatekeeper for allowing scientists to participate was to make sure the appropriate scientist was chosen. Since the person deciding was not part of the science staff, the 'appropriate' status might reasonably be expected to rest on criteria other than the underlying research (UCS, December 18, 2006)

### *Conferences*

We interpret conferences broadly and include gatherings such as panels where scientists can exchange ideas and discuss recent research. Sometimes

these panels control funding for research and therefore are even more important to the wider discipline.

#### Lead Poisoning Prevention Panel

The Department of Health and Human Services refused to accept staff recommendations for scientists to participate in a Lead Poisoning Prevention Panel. The chair of the panel from 1995 to 2000 reported that this was the first time this had ever happened. A distinguished researcher on the subject of lead exposure and chief of pediatrics was dismissed. He was replaced with a toxicologist who previously testified as an expert witness on behalf of Sherwin Williams Paint Company. His view that there has never been a proven link between cognitive problems and levels of lead below 70 micrograms per deciliter is considered very much a “fringe view” and not part of the mainstream consensus derived from the last forty years of data (UCS, *Lead*, August 10, 2005).

#### International AIDS Conference

The Department of Health and Human Services has limited the number of scientists participating in the International AIDS Conference. In 2002 236 scientists had attended, but in 2004 only 50 were allowed to go. The justification was the expense despite the President’s pledge of \$15 billion to fight AIDS. If we are committed to fighting this global scourge, our scientists must be free to participate in this struggle (UCS, December 12, 2006).

#### *Grey Literature/Preprints*

##### Los Alamos Technical Report Library

Fifty years of freely available reports from the Los Alamos Technical Report Library were reclassified, including unique information on fundamental research in material sciences, metallurgy, physics, and engineering. Some reports were found to contain nuclear-weapons designs and that information should have been classified and removed from public view. However, most of the material had no bearing on weapons design whatsoever and should have remained available (Aftergood, 2005).

#### *Proceedings (Primary Literature)*

Many instances of suppression of climate change science have been mentioned in the media, but a truly egregious example was in September 2005 when a National Oceanic and Atmospheric Administration scientist was asked to make sure the words “climate change” or “Kyoto” never appeared in any presentations or in papers. It borders on the ridiculous when scientists are given a list of “naughty” words (UCS, 2007).

### *Journal Articles (Primary Literature)*

#### SBU Regulations

The Bush White House produced a memo to government agencies on “sensitive but unclassified” (SBU) information and it appeared in the Homeland Security Act of 2002 (Public Law No. 107-296). This memo outlined SBU labels to control or prevent public access to information. However, these labels are very vague, and a Government Accountability Office report noted 56 different SBU categories, with inconsistencies and some contradicting each other (Bhattacharjee, 2006). These new restrictions negate Reagan’s National Security Decisions Directive No. 189 which states “where the national security requires control, the mechanism for control of information generated during federally funded fundamental research in science, technology, and engineering at colleges, universities, and laboratories is [a system and mechanics of] classification” (Atlas, 2002).

#### Research edited or not undertaken

At a hearing of the House of Representatives Committee on Science, university scientists objected to the directive to remove the materials and methods sections from their manuscripts as a result of being categorized as SBU (Ricks, 2004). Researchers cannot replicate and confirm the validity of a published paper without a description of the materials and methods. Several cases of university researchers who have omitted important information in their publications have been cited. One of the cases involves omission of details in a study reporting on the likelihood and impact of a dirty bomb attack on Los Angeles harbor. Another example discusses the National Center for Food Protection and Defense at the University of Minnesota and its decision not to start a project on analyzing gaps in the safety of the U.S. food supply. The new federal guidelines for SBU violate state laws in Minnesota regarding public access, so the center decided to decline the research project rather than violate state law (Bhattacharjee, 2006). Considering the recent problems with our food supply, this is a particularly disturbing example of the abandonment of research because of conflicting regulations.

#### Missing information

Further, SBU information is being restricted in libraries, archives, websites, and official databases (Aftergood, 2005). Worse yet, it is unknown what information has been withdrawn because there is no inventory of the deleted materials.

### *Secondary and Tertiary Literatures*

It is too soon to witness the impact of six years of the Bush Administration’s assault on science and the effect on the secondary and tertiary literatures

such as textbooks, handbooks, encyclopedias, reviews, indexes and abstracts because this process takes about 10-20 years, depending on the nature of the information and other factors (Vinkler, 2002). But all of the preceding steps in the taxonomy ultimately lead to these literatures, so one can predict there will be a significant impact ten or fifteen years from now. The destruction of data or prevention of the collection of data as outlined in the ideas and research sections previously will result in the delay or the absence of needed information that will eventually make its way to these literatures.

### *Conclusion*

There is, rightfully, a swell of skepticism concerning the positive role of science in society – particularly when it is viewed in light of environmental disasters and the technical enabling of mass slaughter. However, there is an arena in which science has, at least until recently, continued to function reasonably (if intermittently) well, according to its classic, internal norms, in the public interest: scientific investigation in the interest of the public. We are thinking here of environmental issues and analysis, publicly funded health research, the creation of new technologies, and providing leadership worldwide in cutting edge research. Some of the present Bush Administration's attempts to disrupt the flow of scientific communication have been publicized and are well documented, but the particular approach we take here is to, in effect, taxonomize this process of interference to lay bare a systematic attempt to fundamentally alter science in service to an interest other than the public's. Environmental issues may seem insignificant and “– you may not give a flying crap about, and you don't have to. The point is, the federal behavior involved is emblematic of current government trickery and abuse, publicly damaging abuse, and of lack of oversight by the worst Congress in the last century...”(Hanchette, 2007). Others complain “Science is nothing without people, and there's a perception now that politics trumps science and truth. This not just with FDA decisions or climate change or at the EPA. We see this in public health as well” (Nesmith, 2007).

So what can librarians do? Several national library associations are joining other organizations to promote Sunshine Week. Sunshine Week is a “national initiative to open a dialog about the importance of open government and freedom of information” (American Society of Newspaper Editors, 2005). Local programs are conducted across the nation promoting more openness in government. In the future, libraries can advertise these events, host discussions to promote awareness, and support this effort. This will encourage public comment and attention whenever decisions affecting science and the collection of data are being made.

Environmental and other advocacy groups and national library associations (Openethegovernment.org, n.d.) are collecting and disseminating reports of abuse of science. The national library associations use these reports to influence appropriate people in Congress. The response of the library

world to the attempted destruction of the Environmental Protection Agency library system is a good model of action.

Librarians can also contribute directly. We have expertise in digitizing documents, and can work with environmental and other groups to collect and preserve data, documents, etc. When we build our collections we need to be aware of the changes in basic data, and which reports may be altered or missing. We need to seek out other sources in addition to the traditional scientific and technical reports from the government. As we make these collection development decisions, we need to share this information with our patrons and direct them to these other sources. We can no longer rely without question on the integrity of information simply because it comes from a governmental scientific body. We are in danger of losing our scientific process to a new dark age.

#### References

- Aftergood, S. (2005, March 15). The Bush administration's campaign against openness. In *The age of missing information*. Retrieved February 13, 2007, from Slate Magazine Web site: <http://www.slate.com/id/2114963/>
- American Society of Newspaper Editors. (2005, May 23). Sunshine week: Your right to know. Retrieved June 12, 2007, from <http://www.sunshineweek.org/sunshineweek/about>
- Atlas, R. M. (2002, October 25). National security and the biological research community. *Science*, 298(5594), 753-754. Retrieved May 4, 2007, from American Association for the Advancement of Science Web site: <http://www.sciencemag.org/cgi/content/full/298/5594/753>
- Bhattacharjee, Y. (2006, May 19). Should academics self-censor their findings on terrorism? *Science*, 312, 993-994. Retrieved May 5, 2007, from AAAS Web site: <http://www.sciencemag.org/cgi/reprint/312/5776/993b.pdf>
- BusinessWeek.com (2006, April 24). Breaking the visa backlog. Retrieved April 28, 2007 from the BusinessWeek.com Web site: [http://www.businessweek.com/technology/content/apr2006/tc20060424\\_377280.htm](http://www.businessweek.com/technology/content/apr2006/tc20060424_377280.htm)
- Committee on Governmental Affairs, United States Senate. (2002, October 24). Rewriting the rules. Retrieved March 30, 2007, from Committee on Governmental Affairs, US Senate Web site: <http://hsgac.senate.gov/envrollbacksreport.pdf>
- Hanchette, J. (2007, February 27). Mountain views: news business cuts and guts bad for consumers, prairie dogs alike. Retrieved May 2, 2007, from Niagara Falls Reporter Web site: <http://www.niagrafallsreporter.com/hanchette242.html>
- Kaufman, M. (2007, January 16). Cutbacks impede climate studies; U.S. earth programs in peril, panel finds. *Washington Post*, p. A01. Retrieved June 8, 2007, from LexisNexis Academic database.
- Kaufman, M. (2007, June 1). NASA chief downplays warming. *Philadelphia Inquirer*, p. A6.
- Kevles, D. J. (2006, Fall). What's new about the politics of science? *Social Research*, 73(3), 761-778. Retrieved April 26, 2007, from Wilson Omnifile Full Text Mega database (200628800648004).
- Klaphaak, D. (1996, May 2). Events in the life of Vannevar Bush. Retrieved June 2, 2007, from Brown University, Computer Graphics Group of the Graphics and Visualization Center Web site: <http://graphics.cs.brown.edu/html/info/timeline.html>
- Merriam-Webster (Ed.). (n.d.). Science. In Merriam-Webster online dictionary. Springfield, MA: Merriam-Webster. Retrieved June 2, 2007, from <http://mw1.merriam-webster.com/dictionary/science>
- Nesmith, J., & Cox Washington Bureau. (2007, April 4). Politics called threat to CDC. *The Atlanta Journal-Constitution*, p. 5A. Retrieved May 3, 2007, from LexisNexis Academic database.
- Openthegovernment.org. (n.d.). Americans for less secrecy, more democracy. In Openthegovernment.org. Retrieved June 13, 2007, from <http://inthedark>.

- openthegovernment.org/orgs.html
- Parrott, J. (2004, October 22). Flow of scientific information. In Subject Guides-Computer Science. Retrieved February 19, 2007, from University of Waterloo Library Web site: [http://www.lib.uwaterloo.ca/usered/grad/researchskills/flow\\_of\\_info.html](http://www.lib.uwaterloo.ca/usered/grad/researchskills/flow_of_info.html)
- Ricks, R. (2004, July). "Sensitive but unclassified" information. In *Science and security in the post-9/11 environment*. Retrieved February 13, 2007, from American Association for the Advancement of Science Web site: <http://www.aaas.org/spp/post911/sbu/>
- Space-Track.org. (2004) *Space Track: The Source for Space Surveillance Data*. Retrieved April 28, 2007 from Space-Track.org Web site: <http://www.space-track.org/perl/login.pl>
- Simoncelli, Tania with Jay Stanley. (2005, June). *Science under Siege: The Bush Administrations's Assault on Academic Freedom and Scientific Inquiry*. New York: American Civil Liberties Union. Retrieved March 22, 2007, from the American Civil Liberties Union Web site: <http://www.aclu.org/FilesPDFs/sciundersiege.pdf>
- Shulman, S. (2006). *Undermining science: Suppression and distortion in the Bush administration*. Berkeley: University of California Press.
- Union of Concerned Scientists. (2005, August 10) Analysis on airborne bacteria suppressed. Retrieved March 22, 2007, from Union of Concerned Scientists Web site: [http://www.ucsusa.org/scientific\\_integrity/interference/airborne-bacteria.html](http://www.ucsusa.org/scientific_integrity/interference/airborne-bacteria.html)
- Union of Concerned Scientists. (2005, August 10) Lead poisoning prevention panel influenced by industry. Retrieved April 6, 2007, from Union of Concerned Scientists Web site: [http://www.ucsusa.org/scientific\\_integrity/interference/lead-poisoning-prevention-panel.html](http://www.ucsusa.org/scientific_integrity/interference/lead-poisoning-prevention-panel.html)
- Union of Concerned Scientists. (2006, December 12) CDC experts prevented from presenting at international AIDS conference.. Retrieved April 6, 2007, from Union of Concerned Scientists Web site: [http://ucsusa.org/scientific\\_integrity/interference/international-aids-conference.html](http://ucsusa.org/scientific_integrity/interference/international-aids-conference.html)
- Union of Concerned Scientists. (2006, December 18) HHS Seeks Right of Approval Over Experts on WHO Health Panels. Retrieved March 22, 2007, from Union of Concerned Scientists Web site: [http://www.ucsusa.org/scientific\\_integrity/interference/vetting-experts-on-who-panel.html](http://www.ucsusa.org/scientific_integrity/interference/vetting-experts-on-who-panel.html)
- Union of Concerned Scientists. (2006) The A to Z Guide to Political Interference in Science. Retrieved March 22, 2007, from Union of Concerned Scientists Web site: [http://www.ucsusa.org/scientific\\_integrity/interference/a-to-z-guide-to-political.html](http://www.ucsusa.org/scientific_integrity/interference/a-to-z-guide-to-political.html)
- Union of Concerned Scientists. (2007, March 22) Can't say climate change at carbon conference. Retrieved April 28, 2007, from Union of Concerned Scientists Web site: [http://www.ucsusa.org/scientific\\_integrity/interference/cant-say-climate-change.html](http://www.ucsusa.org/scientific_integrity/interference/cant-say-climate-change.html)
- United States. Department of State. (2006, June 13). *Foreign Affairs Manual*, Volume 9. Retrieved March 22, 2007, from the Department of State Web site: <http://foia.state.gov/masterdocs/09fam/0940031X1.pdf>
- Vinkler, P. (2002, Winter). The institutionalization of scientific information: A scientometric model (ISI-S Model). *Library Trends*, 50(3), 553-569. Retrieved April 16, 2007, from Academic Search Premier database (6870671).
- Wise, M. N. (2006, Winter). Thoughts on the politicization of science through commercialization. *Social Research*, 73(4), 1253-1272. Retrieved April 26, 2007, from Wilson Omnifile Full Text Mega database.