SCIENCE AND STOVEPIPES: THE COVID/CLIMATE MANDATE FOR INTELLIGENCE ANALYSIS AND EDUCATION

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ABSTRACT

Intelligence education and practice require significant adaptations to the global heating crisis, pandemic disease, and environmental threats. The latter are now and will increasingly influence traditional national security, yet most security analysis focuses almost exclusively on human agency, not complex environmental risks. This unique era in human history possesses unprecedented "wicked" security drivers altering more familiar international economic, geopolitical, and military variables. The security drivers present an acute cultural, intellectual, and institutional adaptation problem. The Intelligence Community (IC) community remains limited by bureaucratic tribalism, inertia, predictable human cognitive security biases, and fundamental knowledge gaps. U.S. politically driven controversies about climate and pandemics threaten its professional analytical effectiveness. The IC must go beyond business-as-usual incrementalism toward much greater interdisciplinary integration of science and natural systems into intelligence education and practice.

Keywords: *climate change, intelligence education, human security*

INTRODUCTION

Short of nuclear war and within the broad umbrella of environmental security, pandemic disease and global heating are the two most significant, rising threats in international security today – even though they fall outside of a realist/neorealist traditional national security framing. This is not news to most of the relevant scientific analytic *epistemic communities* (professional experts) with knowledge and competence "in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area." (Haas, 1992) The experts have sounded the alarm for generations. Yet despite progress in national security strategic policy articulation (e.g., U.S. Office of the Director of National Intelligence 2021a, 2022d), the American government has to adequately engage and internalize these powerful variables commensurate with their threat-multiplying security risk.

Climate and public health are interrelated, inherently wicked epistemic problems that are difficult to grasp, frame, or integrate for traditional generalist practitioners and educators. The latter often have insufficient scientific familiarity or understanding of the non-traditional

existential risk these threats pose to global stability and thus cannot convey this to students or colleagues. Even worse, some are blinded by ideological rejection of the science involved or wary of making waves among those who are.

Part of an ongoing research agenda for both authors, this paper proposes substantial institutional/cultural change embracing competency-based science education and complex issue familiarity; establishment (in practice) of much more advanced, robust relationship-building and exchange with epistemic science experts; and in-service training for established professionals; and diffusing politicization of these problems.

PROBLEM STATEMENT

Environmental variables are acute-to-long-term catastrophic global security risks, yet most of the IC focuses on human kinetic threats (war, terrorism, etc.). For instance, the founding of the U.S. Department of Homeland Security did not mention natural disasters and only minimally adjusted this even after Hurricane Katrina (Ramsay & O'Sullivan 2013). These threat-multiplying variables have helped trigger massive droughts, floods, storms, crop failure, historic refugee crises, and regional conflict/war in Syria and Sudan. Meanwhile, the Covid-19 catastrophe continues to reverberate in negative socio-economic and political ways.

In the last 20 years, U.S. administrations increasingly included references in national security strategy (NSS) policy documents. The Trump administration's 2017 NSS (White House 2017) states U.S. interests are to "protect the American people, homeland and way of life," and "promote American prosperity," but explicitly rejected a focus on pandemic and climate planning (Hamilton 2020). Under the Biden administration, both were back in the NSS (White House 2022), but its major strategic priorities still framed those issues primarily as challenges – not primary threats.

By even a conservative objective framing, COVID-19 has been historically catastrophic. The United States had the second-highest per capita death rate. Covid infected at least 104 million U.S. citizens and killed over 1.1 million (Centers for Disease Control [CDC], 2023), with almost seven million deaths worldwide (World Health Organization [WHO], 2023). The number of deaths represents more fatalities than the U.S. Civil War and World War II combined (approximately one million dead total) (Statistica 2022) in a fraction of the time. Pandemic Covid also created a staggering double-digit rate of debilitating, sometimes permanent post-Covid chronic illness beyond the acute infection (the "other pandemic"). "Long Covid" will burden healthcare systems and economies for years. Despite Covid, the threat of pandemic disease is greater now than ever because of animal cross-over strains of influenza, coronaviruses, and other novel viruses interacting with human trade, travel, migration, refugees, and war.

Humans (including intelligence analysts) tend to forget unfamiliar phenomena that do not fit their "stories" of reality. As many historians noted, after the devastating Great Influenza

("Spanish Flu") of 1918-19 (50-100 million dead worldwide), societies around the world had collective amnesia about the event. They remembered World War I collectively, but the Flu was processed as personal tragedies rather than a historic disaster. People lacked a way to frame it all. Spinney notes that to do so would have required "a different storytelling approach" that was unavailable to them, and so people engaged in a "…collective forgetting of the greatest massacre of the twentieth century" (Spinney 2017). There is already evidence of public and institutional "Covid amnesia" as the ongoing pandemic emergency has partly diminished.

THEORY AND METHODOLOGY

This project builds in part on our previous work (O'Sullivan & Ramsay 2015) and that of Ramsay and Renda-Tanali (2018) and colleagues – the latter, which surveyed homeland security subject matter experts seeking an optimal curriculum for degree programs. That curriculum included the need for HLS professionals to understand human and environmental security among its seven core knowledge domains and core competencies. It is now clear in the years since that pandemics and the worsening climate crisis must be more aggressively incorporated into intelligence education and practice norms.

Our evidence thus far comes from interviews with and work by security professionals, analysis of trendlines in strategic planning documents, public media discourse, and intelligence education. Aside from laying out the scientific and geopolitical severity of these interlinked threats, we hypothesize interdisciplinary theoretical reasons for these intelligence knowledge level and prioritization deficits, attributing sociological, conceptual, political, and human agency (and other) cognitive biases.

Intelligence security analysts are generally very capable people. Yet as robust psychological, sociological, economic, and organizational literatures demonstrate, neither people nor institutions are rational self-maximizing actors but prone to emotional and cognitive biases. We are notoriously imperfect at hypothesis testing or rationally reasoning about highly complex macro issues outside our ken. We are inclined to quickly prioritize immediate or vivid, emotionally memorable threats versus far-off, abstract ones that are too complex or overwhelming to understand (Kahneman, 2011). As Hamilton (2021) notes, "[w]e can count Russian tanks, Chinese submarines, and Iranian and North Korean missiles. They exist in the here and now."

FINDINGS

Institutional and conceptual adaptation is limited by bureaucratic politics and inertia (silos), various human cognitive security biases, epistemic science knowledge limitations to holistic analysis, and politically driven controversies about climate and pandemic threats. There is also a generational/institutional dilemma in related intelligence. Younger professionals generally have less institutional agency yet are more aware of the significance and complexity of climate change (and even pandemic) issues. Their older upper-level decision-making colleagues typically have

less related familiarity and knowledge, thus a predictable tendency to fall back on fighting the proverbial last war.

Multifactor three-dimensional analysis of complex environmental/epidemiological systems and wicked problems is significantly complicated by:

- The scope and scale of these threats are now prospectively greater than any previous security issue (short of a "World War III" style Armageddon). The climate crisis affects every major natural and human system on a scale not seen in millions of years.

- Speed. Although disasters multiply worldwide, media, elites, and society still frame climate change as a slowly unfolding threat. This is dramatically incorrect, given the breathtaking speed with which weather disasters, glacial melt, and overall climate phenomenon have worsened in 20 years. Atlantic hurricanes can now intensify overnight from tropical depressions to major storms because of record-warming ocean temperatures. This makes disaster preparedness far more difficult and intelligence analysis far more reliant on cutting-edge epistemic science knowledge inputs.

- The frequency of disaster events is now much greater than previous estimates. The climate crisis affects every major natural and human system at scales and frequencies not seen in human – and sometimes geological history.

- Unpredictability is the result of such rapid, large-scale change. Internal institutional knowledge and "common wisdom" will become rapidly obsolete as the rate of catastrophic grey and black swan disasters increases.

CONCLUSION

No person, institution, or field of expertise can fully encompass the totality of these wicked problems. Thus, information and analytical literacy must, by necessity, be interdisciplinary, mutually beneficial, and actively cooperative. Still in progress, our initial findings from interviews, document content analysis, and professional conference feedback supports the central premise that this wicked problem set poses structurally and sociologically unique challenges for the intelligence community's ability to adequately assess environmental security risk.

1. Climate and pandemic issues are powerful interconnected *independent*, *dependent*, and *confounding* national (and human) security variables – far more unfamiliar, complex, and intractable than most traditional security analysis is accustomed to.

2. That people are predisposed to not fully grasp these historically unprecedented synergistic threats or be able to shake their instinctive focus on human agency and historic norms and framing.

Sherman Kent, founder of the U.S. Office of National Estimates, once noted "[i]ntelligence does not claim infallibility for its prophecies… [it] merely holds that the answer which it gives is the most deeply and objectively based and carefully considered estimate" (US DNI 2021b). The nature of these historically unprecedented, intractable, wicked environmental issues transcends mere fallibility and is increasingly endangering the intelligence mission's analytical and predictive abilities. It is no longer a matter of traditional kinetic vs. non-traditional/"securitized" drivers of national and international insecurity. It's very much both.

RECOMMENDATIONS

The future's intelligence workforce (and leadership) must have more than a passing exposure to these wicked national security drivers' scientific knowledge and three-dimensional implications. These linked, fundamental threat multipliers require institutional restructuring and educational/training reorientation to overcome embedded traditional neorealist theoretical and applied framing biases. We recommend the following:

1. Remedial education. In-service workshops, webinars, colloquia, etc., for national security intelligence professionals and HLS and IC university educators conducted by or at least including epistemic area experts. Overcoming traditional human agency (and thus national security) bias and complex integration of wicked climate and public health variables requires effortful training.

2. More extensive curricular integration of environmental literacy and case study analysis into intelligence education programs: The future workforce will constantly deal with these issues. It must know how to consume or corral these knowledge domains.

3. Epistemic collaboration. At the practice level(s), the still too closed-loop, secretive intelligence community must embrace relationship-building and integrating a broad spectrum of open-source scientific experts into sensitive, unclassified, two-way analysis and forecast collaborations (also contrary to traditional models). See #1 above.

4. Competitive analysis training and practice. Promoting environmental/climate/pandemic problem framing and cases into "competing analysis" in training and practice will help depoliticize these non-traditional security data-driven perspectives. Both climate and public health issues, at least in American culture, have warped the science-literacy of government analysis, even in the IC

REFERENCES

Haas, P. M. (1992). Introduction: epistemic communities and international policy coordination. *International Organization*, *46*(1), 1-35.

Hamilton, R. E. (2020). COVID-19 and pandemics: The greatest national security threat of 2020 and beyond. Foreign Policy Research Institute. https://www.fpri.org/article/2020/07/covid-19-and-pandemics-the-greatest-national-security-threat-of-2020-and-beyond/

Johns Hopkins Coronavirus Resource Center (2023). https://coronavirus.jhu.edu

Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.

Lieven, A. (2020). Climate change and the state: A case for environmental realism. *Survival*, *62*(2), 7-26.

O'Sullivan, T. M., & Ramsay, J. (2015). Defining and distinguishing homeland from national security and climate-related environmental security, in theory and practice. *Journal of Homeland Security and Emergency Management*. *12*(1), 43-66.

Pörtner, H. O., Roberts, D. C., Adams, H., Adler, C., Aldunce, P., Ali, E., & Ibrahim, Z. Z. (2022). *Climate change 2022: Impacts, adaptation, and vulnerability*. Geneva, Switzerland: Intergovernmental Panel on Climate Change (IPCC).

Ramsay, J. & Renda-Tanali, I. (2018). Development of competency-based education standards for homeland security academic programs. *Journal of Homeland Security and Emergency Management*. *15*(3), 20180016. https://doi.org/10.1515/jhsem-2018-0016

Ramsay, J. D., & O'Sullivan, T. M. (2013). There's a pattern here: The case to integrate environmental security into homeland security strategy. *Homeland Security Affairs*, *9*(6).

Sikorsky, E. (2022). National security and climate change: The attention it deserves. *Survival*, *64*(1), 67-73.

Spinney, L. (2017). *Pale rider: The Spanish flu of 1918 and how it changed the world*. Public Affairs.

Statistica (2022). Number of military fatalities in all major wars involving the United States from 1775 to 2022. https://www.statista.com/statistics/1009819/total-us-military-fatalities-in-american-wars-1775-present/

Office of the Director of National Intelligence. (2021a). Global trends 2040: A more contested world. https://www.dni.gov/index.php/gt2040-home/introduction

U.S. Centers for Disease Control and Prevention (CDC) (2023). *Covid Data Tracker*. https://covid.cdc.gov/covid-data-tracker/#datatracker-home

U.S. Director of National Intelligence, Office of (2021b). *National Intelligence Estimate: Climate Change and International Responses Increasing Challenges to U.S. National Security Through 2040*. NIC-NIE-2021-10030-A

White House. (2022). *National Security Strategy of the United States of America*. Washington, DC: White House, 2022. https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf

White House. (2017) *National Security Strategy of the United States of America.* Washington, DC: White House, 2017. https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf

World Economic Forum (2023). *Global risks report 2023*.

World Health Organization. (n.d.). *Who coronavirus (COVID-19) dashboard*. World Health Organization. Retrieved April 8, 2023, from https://covid19.who.int/