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EDITED BY MELISSA LAYNE AND CARTER MATHERLY

Prediction, Plus Patchwork, Equals Pandemic

Margaret Marangione

Just Short of Cyberwar: A Focus on *Jus Ad Vim* to Inform an Ethical Framework for Cyberspace

Al Lewis

The New River Report: Socio-Ecological System Impacts of Anthropogenic Pollution on New River Communities in Belize

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International NGOs Targeted by Terror: The Impact of Religiosity on Independence, Neutrality, and Impartiality

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Operationalizing Intelligence Collection in a Complex World: Bridging the Domestic & Foreign Intelligence Divide

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Wrangling Stochasticity & Deconstructing Dimensionality: An Illustration of Fractals in Discursive Spaces

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Book Review: *Mindf*ck*, *Cambridge Analytica* and *The Plot to Break America*

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Aims and Scope. *GSIS* is a bi-annual, peer-reviewed, open access publication designed to provide a forum for the academic community and the community of practitioners to engage in dialogue about contemporary global security and intelligence issues. The journal welcomes contributions on a broad range of intelligence and security issues, and from across the methodological and theoretical spectrum.

The journal especially encourages submissions that recognize the multidisciplinary nature of intelligence and security studies and that draw on insights from a variety of fields to advance our understanding of important current intelligence and security issues. In keeping with the desire to help bridge the gap between academics and practitioners, the journal also invites articles about current intelligence- and security-related matters from a practitioner perspective. In particular, *GSIS* is interested in publishing informed perspectives on current intelligence- and security-related matters.

GSIS welcomes the submission of original empirical research, research notes, and book reviews. Papers and research notes that explicitly demonstrate how a multidisciplinary approach enhances our theoretical and practical understanding of intelligence and security matters are especially welcome. Please visit <https://www.ipsonet.org/publications/open-access/gsis/instructions-for-authors> for complete details.

Welcome to Our New Associate Editor, Dr. Carter Matherly

Dear *GSIS* Readers,

I would like to take this opportunity to formally welcome our new *GSIS* Associate Editor, Dr. Carter Matherly! Dr. Matherly has been instrumental in helping *GSIS* grow our readership, expand our esteemed editorial board, increase the academic rigor of our article submissions, and continues to bring innovative ideas to the editorial table. Dr. Matherly did an outstanding job as Guest Editor for *GSIS*'s spring/summer special issue, *The Emergence of the Psychological Warfighting Domain*, and the current issue. Together, we are developing our 2021 *GSIS* Strategic Plan to include new sections, new approaches, and additional publishing opportunities. Collaborating with Dr. Matherly has been an absolute pleasure, and we are thrilled to have him help advance *GSIS* onward and upward.



Dr. Carter Matherly, PhD, is a research psychologist specializing in the application of psychological principles to intelligence matters and is based in upstate NY. Prior to his move to NY, he spent twelve years on active duty with the US Air Force as an Air Battle Manager and Air Liaison Officer.

He earned a PhD in psychology from Walden University in 2018. His research focused on the implicit effects that media portrayals of terrorist attacks have on individuals. His dissertation was nominated for special recognition by the doctoral faculty. Previous degrees include a Masters of Science in Social Psychology from Walden University in 2016 and a Masters of Arts in Intelligence Analysis with a concentration in Terrorism from American Military University in 2013. His thesis highlighted the need for increased use of psychological principles in adversarial analysis and was published with distinction.

During his time with the Air Force, he deployed in support of numerous operations including Operation Iraqi Freedom, Inherent Resolve, New Dawn, and Enduring Freedom. He attended the US Marine Corp's Weapons and Tactics In-

structor and Senior Watch Officer courses. He is also a graduate of the Air Force's Flying Instructor training program, Electronic Warfare Mission Commander course, and Critical Thinking and Analysis course. He received numerous awards and recognitions, including the Association of Old Crow Battle Manager of the Year award for 2019 and a nomination for the Arthur S. Flemming Award.

Dr. Matherly's primary area of research includes the application of psychological principles to intelligence problem sets and advocacy for a psychological warfighting domain. Highlights from his recent research include identifying the psychological motivators for individuals who join terrorist organizations, dissecting North Korean propaganda, and North Korean refugee discrimination. He welcomes opportunities to collaborate on books and chapters, co-authorships, and new research on emerging intelligence topics not limited to terrorism and North Korea.

Dr. Matherly and his wife, Becca, live in upstate New York and recently welcomed their first son, Dorian.

Congratulations Dr. Matherly, and welcome to *GSIS*!

A handwritten signature in black ink, appearing to read 'Melissa Layne', with a stylized flourish at the end.

Melissa Layne, Ed.D.

Editor-in-Chief, *GSIS*

Editorial Welcome

Welcome to the second issue of our fifth edition! *Global Security and Intelligence Studies (GSIS)* exists at the crossroads between academia and practitioners. We serve a diverse audience ranging from policymakers to operators. Across this spectrum of readers, *GSIS* strives to provide work pertaining to the most current and relevant topics so that security and intelligence can advance as rapidly as the threat(s) is/are able to adapt. This edition is no exception; we are pleased to offer insights into the COVID-19 pandemic and cyber operations on several levels, the security and social impacts of ecology shifts, the role of religion in NGOs targeted by terror, and how framing can influence public perception of refugee protection policies. We close this edition with five book reviews covering psychological operations to cyber security. This issue covers a lot of ground in the security and intelligence industry!

We open this issue with a policy-oriented piece by Margaret Marangione on the COVID-19 pandemic, which openly addresses interagency shortfalls and the need for greater intelligence in the biosecurity and biothreat fields. Drawing parallels to the intelligence and policy failures leading up to the 9/11 attacks, this insightful article highlights similar failures combined with poor policy, not specific to any administration, that failed to provide protection and preparedness. Although not a common term or discipline today, MEDINT (medical intelligence) should be commonplace in the intelligence community.

Al Lewis explores the concepts of Just War Theory and how cyber capabilities are being employed in a *jus ad vim* (just short of war) framework, while achieving effects generally seen during wartime conflicts. The author highlights the lack of an ethical framework to guide cyber warfare similar to Just War Theory, which offers the foundational bedrock describing the ethical use of traditional warmaking power.

Resembling the 2014 Flint River pollution in Flint, Michigan, the *New River Report*, by Kristin Drexler, mirrors similar socio-ecological system impacts. Through Drexler's interviews with residents in riverside communities, the same lack of trust for industry and government, feelings of powerlessness, and uncertain futures echo from those in the Flint communities. From the interviews, the author identifies areas within our socio-ecological system where anthropogenic pollutants pose a long-term and detrimental threat to human health, livelihoods, the environment, culture, and social justice. The author offers potential solutions to this nationwide issue to comprise discussions among industry, government, agriculture, and citizens of the community.

In the article *International NGOs Targeted by Terror: The Impact of Religiosity on Independence, Neutrality, and Impartiality*, author Dr. Kathryn Lambert

explores the impact that religious faith has on core humanitarian principles and issue-advocacy among faith-based and secular humanitarian organizations that have been attacked by terrorist organizations. Her longitudinal study spans eighteen years and ninety-two organizations. In today's complex world of security and threat, humanitarian organizations quickly arrive on-scene or in theater with the aim of administering to their cause, regardless of the complexities brought with them. Understanding these complexities is critical for the humanitarian and disaster relief commander or leader. Dr. Lambert offers a unique and critical insight into these effects.

In a political time that has seen increasingly divisive rhetoric, Dr. Melissa Schnyder offers experimental insight into how framing can affect in-group/out-group dichotomies. Using populations in France and Germany, the author notes that only some framing is effective when attempting to garner support for refugee migrants. This research is critical to intelligence and security professionals in the immigration and homeland security disciplines, and it might offer insights and signposts into influence attempts by a foreign actor.

Dr. Jim Burch rounds out our research articles for this issue with a discussion on operationalizing the intelligence community. In an era of warfare, where terms like Artificial Intelligence, joint-multi-domain operations, and agile adaptive enemies frame the mindset of the warfighter, what is to be said about intelligence collection? Dr. Burch uses Hesselbeim's six-faceted framework for transformation to operationalize and bridge critical gaps in intelligence collection efforts.

In our second piece on cyber security, Dr. Douglas Rose offers a technically advanced look into the futures of cyber warfare and theory. Imagine if advanced physics and statistical analysis were combined to create a physical, yet virtual, domain. The resultant discursive spaces offer maps on which intelligence operations can be conducted, but in an era that holds Artificial Intelligence and Machine Learning as the next major evolution, this research asks who, or what, is monitoring the hidden fractals. The theories and ideas proposed in this article are easily a paradigm shift in cyberwarfare and intelligence.

Our authors have kept themselves extremely busy during the recent months sequestered under quarantine conditions. This has given them considerable time to catch up on some light reading. As a result, our submission inbox was bursting with book reviews and we are excited to present four of the best with this edition! Dr. Mark Peters II offers keen insight and perspective on Chris Wylie's controversial book, *Mindf*ck, Cambridge Analytica and The Plot to Break America*. With election season underway, this review could not be more timely or relevant. Dr. Elise Rainer brings us a thought-provoking review and recommendation for *Because We Are Human: Contesting US Support For Gender and Sexuality Human Rights Abroad*. Human Rights and LGBTI students, professionals, and scholars all would benefit from this review and authoritative book on a vulnerable group still

persecuted in other nations. Alfred Lewis takes us back to the cyber domain with his review of *The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics*. Describing a growing area of increased technical jargon and complexity, *The Hacker and the State* offers a digestible presentation and discussion in a non-technical format. In our final book review, Dr. Jim Burch discusses *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*. Part historical account, part leadership, and part teammanship, this book is a must-read for anyone working in the cyber domain today.

GSIS strives to be the source for research on global security and intelligence matters. As the global threatscape evolves over time, GSIS is evolving to keep pace. The journal is enhancing its academic edge, impact, and reach. We are working to build stronger bridges between senior leaders, academics, and practitioners. In addition to new content that advances the global discussion of security and intelligence, readers can anticipate more special issues with focus on current security concerns.



Melissa Layne, EdD
Editor-in-Chief



Carter Matherly, PhD
Associate Editor

Carta editorial

¡Bienvenidos al segundo número de nuestra quinta edición! Los estudios de seguridad e inteligencia globales se encuentran en la encrucijada entre la academia y los profesionales. Servimos a una audiencia diversa que va desde legisladores hasta operadores. En todo este espectro de lectores, GSIS se esfuerza por proporcionar trabajo relacionado con los temas más actuales y relevantes para que la seguridad y la inteligencia puedan avanzar tan rápido como las amenazas puedan adaptarse. Esta edición no es una excepción, nos complace ofrecer información sobre la pandemia COVID-19, discutir las operaciones cibernéticas en varios niveles, los impactos sociales y de seguridad de los cambios en la ecología, el papel de la religión en las ONG atacadas por el terror y cómo el encuadre puede influir percepción pública de las políticas de protección de refugiados. Cerramos esta edición con cinco reseñas de libros que abarcan desde operaciones psicológicas hasta la ciberseguridad. ¡Este problema cubre mucho terreno en la industria de la seguridad y la inteligencia!

Abrimos este número con un artículo orientado a las políticas de Margaret Marangione sobre la pandemia de COVID-19 que aborda abiertamente las deficiencias entre agencias y la necesidad de una mayor inteligencia en los campos de la bioseguridad y las amenazas biológicas. Trazando paralelismos con las fallas de inteligencia y políticas que llevaron a los ataques del 11 de septiembre, el perspicaz artículo destaca fallas similares que, combinadas con una política deficiente, no específica de ninguna administración, no brindaron protección y preparación. Aunque no es un término o disciplina común en la actualidad, MEDINT (inteligencia médica) debería ser un lugar común en la comunidad de inteligencia.

Al Lewis explora los conceptos de la teoría de la guerra justa y cómo las capacidades cibernéticas se están empleando en un marco de *jus ad vim* (poco antes de la guerra) mientras se logran efectos que generalmente se ven durante los conflictos de guerra. El autor destaca la falta de un marco ético para guiar la guerra cibernética similar a la teoría de la guerra justa, que ofrece la base fundamental que describe el uso ético del poder bélico tradicional.

Parecido a la contaminación del río Flint de 2014 en Flint, Michigan, el New River Report, de Kristin Drexler, refleja impactos similares en el sistema socioecológico. A través de las entrevistas de Drexler con los residentes de las comunidades ribereñas, se refleja la misma falta de confianza en la industria y el gobierno, sentimientos de impotencia y futuros inciertos de quienes viven en las comunidades de Flint. A partir de las entrevistas, el autor identifica áreas dentro de nuestro sistema socioecológico donde los contaminantes antropogénicos representarán una amenaza a largo plazo y perjudicial, como la salud humana, los medios de vida, el medio ambiente, la cultura y la justicia social. El autor ofrece posibles soluciones a este problema a nivel nacional para incluir discusiones entre la industria, el gobierno, la agricultura y los ciudadanos de la comunidad.

En el artículo ONG internacionales atacadas por el terror: el impacto de la religiosidad en la independencia, la neutralidad y la imparcialidad, la autora, Dra. Kathryn Lambert, explora el impacto que tiene la fe religiosa en los principios humanitarios básicos y la defensa de problemas entre las organizaciones humanitarias seculares y religiosas que han sido atacado por organizaciones terroristas. Su estudio longitudinal abarca dieciocho años y 92 organizaciones. En el complejo mundo actual de seguridad y amenazas, las organizaciones humanitarias llegarán rápidamente a la escena o al teatro con el objetivo de ayudar a su causa, independientemente de las complejidades que traen consigo. Comprender estas complejidades es fundamental para el comandante o líder de ayuda humanitaria y de socorro. El Dr. Lambert ofrece una visión única y crítica de estos efectos.

En una época política que ha visto una retórica cada vez más divisiva, la Dra. Melissa Schnyder ofrece una visión experimental de cómo el encuadre puede afectar las dicotomías dentro del grupo fuera del grupo. Utilizando poblaciones en Francia y Alemania, el autor señala que solo algunos marcos son efectivos cuando

se intenta obtener apoyo para los migrantes refugiados. Esta investigación es fundamental para los profesionales de inteligencia y seguridad en las disciplinas de inmigración y seguridad nacional y podría ofrecer información y señales sobre los intentos de influencia de un actor extranjero.

El Dr. Jim Burch completa nuestros artículos de investigación para este número con una discusión sobre cómo operacionalizar la comunidad de inteligencia. En una era de guerra donde términos como Inteligencia Artificial, operaciones conjuntas de múltiples dominios y enemigos adaptables ágiles enmarcan la mentalidad del guerrero, ¿qué se puede decir sobre la recopilación de inteligencia? El Dr. Burch utiliza el marco de seis facetas de Hesselbeim para la transformación a fin de poner en funcionamiento y cerrar brechas críticas en los esfuerzos de recopilación de inteligencia.

En nuestro segundo artículo sobre seguridad cibernética, el Dr. Douglas Rose ofrece una visión técnicamente avanzada del futuro de la guerra y la teoría cibernéticas. Imagínese si la física avanzada y el análisis estadístico se combinaran para crear un dominio físico, pero virtual. Los espacios discursivos resultantes ofrecen mapas en los que se pueden realizar operaciones de inteligencia, pero en una era que tiene a la Inteligencia Artificial y el Aprendizaje Automático como la próxima gran evolución, esta investigación pregunta quién o qué está monitoreando los fractales ocultos. Las teorías e ideas propuestas en este artículo son fácilmente un cambio de paradigma en la guerra cibernética y la inteligencia.

Nuestros autores se han mantenido extremadamente ocupados durante los últimos meses secuestrados en condiciones de cuarentena. Esto les ha dado un tiempo considerable para ponerse al día con una lectura ligera. Como resultado, nuestra bandeja de entrada estaba repleta de reseñas de libros y estamos emocionados de presentar cuatro de los mejores con esta edición. El Dr. Mark Peters II ofrece una profunda visión y perspectiva del controvertido libro de Chris Wylie, *Mindf*ck*, Cambridge Analytica y *The Plot to Break America*. Con la temporada de elecciones en marcha, esta revisión no podría ser más oportuna o relevante que la actual. La Dra. Elise Rainer nos trae una revisión y una recomendación que invita a la reflexión para *Porque somos humanos*: impugnando el apoyo de los Estados Unidos a los derechos humanos de género y sexualidad en el extranjero. Los estudiantes, profesionales y académicos de derechos humanos y LGBTI se beneficiarían de esta revisión y libro autorizado sobre un grupo vulnerable que aún es perseguido en otras naciones. Alfred Lewis nos lleva de regreso al dominio cibernético con su reseña de *El hacker y el estado: ataques cibernéticos y la nueva normalidad de la geopolítica*. Un área creciente de jerga técnica y complejidad cada vez mayores *The Hacker and the State* ofrece una presentación y discusión digeribles en un formato no técnico. En nuestra revisión final del libro, el Dr. Jim Burch analiza *Los innovadores: cómo un grupo de hackers, genios y geeks crearon la revolución digital*. En parte relato histórico, en parte liderazgo y en parte

destreza en equipo, este libro es una lectura obligada para cualquiera que trabaje en el dominio cibernético hoy.

Estudios de inteligencia y seguridad global se esfuerza por ser la fuente de investigación sobre asuntos de inteligencia y seguridad global. A medida que el panorama de amenazas global evoluciona con el tiempo, GSIS evoluciona para mantener el ritmo. La revista está mejorando su alcance académico, su impacto y su alcance. Estamos trabajando para construir puentes más sólidos entre líderes senior, académicos y profesionales. Además del contenido nuevo que avanza en la discusión global sobre seguridad e inteligencia, los lectores pueden anticipar problemas más especiales centrándose en las preocupaciones de seguridad actuales.



Melissa Layne, EdD
Editora Principal



Carter Matherly, PhD
Editor Asociado

编者按

欢迎阅读第5卷第2期内容！《全球安全与情报研究》（GSIS）是连接学术界和从业人员的平台。我们为包括决策者和政策执行者在内的多样化读者服务。GSIS致力提供与最新和最重要话题相关的文章，借此让安全和情报的提升速度和威胁所适应的速度一样快。和往期一样，我们很高兴提供关于新冠肺炎（COVID-19）大流行的见解，探讨不同层面的网络操作、生态转变所带来的安全影响和社会影响、宗教在遭遇恐怖主义威胁的非政府组织中发挥的作用、以及框架如何能影响公众对难民保护政策的感知。本期内容以五篇书评结尾，书评涵盖了网络安全中的心理操作。本期内容研究了安全与情报产业中的诸多领域。

本期第一篇文章的作者是Margaret Marangione，文章以政策为导向，聚焦COVID-19大流行，公开应对了生物安全和生物威胁领域中的机构间缺点和对更多情报的需求。通过与导致9/11袭击的情报和政策失败进行比较，文章强调了类似的失败，后者与政府的薄弱政策相关，导致无法提供安全和预备。尽管如今MEDINT（医疗情报）还不是一个常见术语或学科，但其应得到情报界的普遍关注。

学者Al Lewis探究了正义战争理论的概念，以及网络能力如何被应用于*jus*

ad vim（不及战争）框架，实现战争冲突的效果。作者强调了缺乏一个与正义战争理论相似的伦理框架来指导网络战，正义战争理论为描述传统战争力量的伦理使用提供了基石。

与2014年密歇根州弗林特水污染事件相似的是，学者Kristin Drexler撰写的“新河报告”反映了类似的社会-生态系统影响。通过Drexler与河岸社区居民的访谈，发现那里和弗林特社区一样对产业和政府缺乏信任，存在无力感和不确定的未来。作者从访谈中识别了社会-生态系统内的不同领域，在这些领域中人类污染物将对人类健康、生计、环境、文化以及社会正义造成长期有害威胁。作者为这一涉及全国的问题提供潜在的解决方案，以期促成产业、政府、农业和社区公民之间的探讨。

在《遭受恐怖主义威胁的国际非政府组织：宗教性对独立性、中立性和公正性产生的影响》一文中，作者Kathryn Lambert博士探究了宗教信仰对关键人道主义原则和议题-倡导产生的影响（对象为那些遭受恐怖主义机构攻击的，基于信仰的人道主义机构和世俗人道主义机构）。作者的纵向研究持续18年，涉及92个机构。在安全和威胁的复杂世界中，人道主义机构将迅速掌握线索或赶往战场，以期提供支持，不论它们所应对的复杂性是什么。理解这些复杂性对人道主义和赈灾指挥官而言至关重要。Lambert博士对这些效果提供了独特的批判性见解。

在一个分裂言论越来越多的政治时期，Melissa Schnyder博士通过实验就框架能如何影响内群体和外群体提出见解。以法国和德国的群体为研究对象，作者表示，在试图汇集难民支持时仅部分框架是有效的。该研究对移民和国土安全学科的情报专家和安全专家而言是重要的，研究可能对国外行动者的影响力企图提供见解。

Jim Burch博士的文章是本期收录的最后一篇研究文章，探讨了对情报界进行操作化。在一个由人工智能、共同多领域操作、敏捷自适应敌方等术语对战士思维进行定义的时代，情报收集应该是什么样的？Burch博士使用学者Hesselbeim的转型框架（包括六个方面），对情报收集工作进行操作化，并填补情报收集工作中的关键空白。

本期第二篇关于网络安全的文章中，Douglas Rose博士从高级技术上分析了网络战的未来和理论。试想如果高等物理和统计分析相结合，创造一个物理虚拟网络，情况将会是什么样。因此产生的话语空间为情报操作能如何进行提供了指示，但在一个将人工智能和机器学习作为下一代主要演变的时代，该研究试图了解谁（或什么）在操纵隐藏的**分形（hidden fractals）**。文章提出的理论和观点很可能是网络战和情报中的范式转变。

我们的作者在最近几个月里十分忙碌。居家办公让他们有充足的时间进行阅读。结果则是，我们的投稿收件箱充满了书评，因此我们很兴奋分享四篇最佳书评。Mark Peters II博士对Chris Wylie饱受争议的著作*Mindf*ck, Cambridge Analytica and The Plot to Break America*提出了深刻见解。正值选举期间，这篇书评来的十分及时。Elise Rainer博士就*Because We Are Human: Contesting U.S. Support For Gender and Sexuality Human Rights Abroad*带来一篇触发思考的评论和建议。人权和LGBTI学生、专家、学者都能够从这篇评论文和这本权威著作中获益，后者讲述了脆弱群体在其他国家依然受到迫害的经历。学者Alfred Lewis对*The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics*所作的评论文将我们带回网络领域。*The Hacker and the State*一书以非技术的形式对越来越多的技术术语和复杂性提供了易理解的表述和探讨。最后一篇书评中Jim Burch探讨了*The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*。这部书由历史叙述、领导力和团队合作精神（teammanship）组成，是如今从事网络领域的人士的必读之物。

《全球安全与情报研究》致力成为全球安全与情报事务的研究来源。随着全球威胁局面不断演变，GSIS正在跟上脚步。本刊正在提升其学术优势、影响和范围。我们致力在高级领导者、学者和从业人员之间搭建更稳固的桥梁。除去促进全球安全与情报探讨的新内容，读者还能期待聚焦当前安全关切的特刊。



教育学博士主编



博士副主编

Prediction Plus Patchwork Equals Pandemic

Margaret S. Marangione

Syntelligent Analytic Solutions

What do the Taliban, gangs in South America, and the New England Patriots Football team have in common? They all purchased facemasks to support their communities in the fight against the COVID-19 pandemic. A hodgepodge pandemic response from many formal governments, states, agencies, medical intelligence (MEDINT) organizations working in silos, and people in power ignoring bio-threat recommendations created this opportunity for unlikely humanitarian bedmates. There is a disparity in how countries and US states are handling the crisis, and there are challenges in addressing the spread and reopening of states and businesses. Yet, looking back at the Spanish flu and listening to the forewarnings and recommendations by the intelligence community provides policy- and decision-makers an opportunity to improve bio-surveillance and bio-threat management. COVID-19 is a bellwether for change.

Introduction

For many Americans and the global community who are living in the dystopian reality that the pandemic has created, it seems unbelievable that in March 2020 we watched drone footage and images of burial

crews in freshly dug muddy trenches burying body after body in bare wooden boxes in New York. This is one of many searing illustrations of the pandemic's ghastly mortal toll, along with those of field hospital tents in Central Park, a Navy hospital ship off Manhattan, and refrigerated trailers parked outside hospitals to handle the overflow of bodies. This happens in developing countries, not the City on a Hill. America ended up at this gruesome juncture because predictions of a bio disaster, which were voiced as early as the Bush administration, continued through the Obama administration, and went unnoticed by the Trump administration, were disregarded by key decision-makers. Additionally, because the numerous and far-reaching bio-threat players exist in silos, there is a delay in reporting information, and the Big Data that has to be sorted through to derive MEDINT analysis is like piecing together an Appalachian crazy quilt. Additionally, with the politicization of data, data integrity may be compromised.

From a military perspective, just like, SIGNIT, MASINIT and other intelligence collections, MEDNIT encompasses the processes of collection, evaluation, analysis, and interpretation of medical, bio-scientific, and environmental information. Part of MED-

INT preparation involves analyzing information on medical and disease threats; enemy capabilities; terrain; weather; local medical infrastructure; potential humanitarian and refugee situations; transportation issues; and political, religious, and social issues for all types of operations for both military and civilians (Department of Defense 2013). However, MEDINT is not just comprised of military entities, but also contains numerous and far-reaching players in the civilian sector and at the Centers of Disease Control (CDC). Yet, the issues of MEDINT during the COVID-19 pandemic, and its forecasting and challenges, run parallel to the intelligence issues before the 9/11 catastrophe, and just like the aftermath of 9/11, there will need to be an overhaul of how America, and much of the world, manages and monitors bio-threats.

9/11, COVID-19 Forecast, and Financial Fiasco

On September 11, 2001, before most Americans even knew there was a Wuhan, China, a large-scale unprecedented terrorist attack changed the intelligence security landscape, and American bio-surveillance is now at the same juncture for change. Four planes were the catalyst for reinventing the siloed intelligence community into the centralized Director of Intelligence and the Department of Homeland Security. COVID-19 has the same potential to transform how MEDINT will be managed and coordinated for future bio-threats. America was teetering on the edge for both

the terrorist attack and the pandemic, with evidence and briefings given by knowledgeable agencies and researchers well before a wet market virus or a mastermind in Al Qaeda had exhibited the predilection for disaster. For example, in the spring of 2001, the Central Intelligence Agency (CIA) repeatedly and urgently warned the White House that an unmatched terrorist attack was coming. By May 2001, Cofer Back, former chief of the CIA's counterterrorism center stated, "It was very evident that we were going to be struck, we were gonna be struck hard and lots of Americans were going to die" (Whipple 2013). Cofer's former boss, George Tenet concluded, "The world felt like it was on the edge of eruption [before 9/11]" (Whipple 2013).

Similarly, MEDINT voices echoed in the halls of silence regarding a large-scale probable pandemic that had the power to stop America in its tracks. As early as 2005, Health Secretary Mike Leavitt was mocked as Chicken Little by political rivals and late-night comics. "In advance of a pandemic, anything you say sounds alarmist," Leavitt explained. "After a pandemic starts, everything you've done is inadequate" (Whipple 2013). While the easy way out is to blame the current political situation in the United States for COVID-19's toll in America, the cycle of inattention has roots far deeper than the current administration, according to top policymakers from three administrations covering twenty years.

The 381-page Pandemic and All-Hazards Preparedness Act that Leavitt, Azar, and other health officials

announced in November 2005 included tactics, models, and other details that eerily resemble today's coronavirus crisis. One scenario, cut from the final report, even described how a respiratory disease would swiftly move from sickening dozens in an Asian village to killing as many as 1.9 million Americans, a framework that foreshadowed future discussions about the COVID-19 outbreak (Hodge 2007). In June 2005, then-senator Barack Obama wrote in the *New York Times*, "We must face the reality that these exotic killer diseases are not isolated health problems half a world away, but direct and immediate threats to security and prosperity here at home" (Obama and Lugar 2005). But as president four years later, Obama promptly forgot what he had said. He initially abolished the White House's dedicated Office on Global Health Security—the same move that Bush made before him and that Trump followed years later. Additional hurdles were an Obama-era improvement plan created post-H1N1, which offered suggestions that were batted back by the Republican-led Congress. The Republican-led Congress refused to invest in the nation's hospital preparedness program, which has continued to undergo years of winnowing by congressional appropriators, but would have ensured a sufficient supply of ventilators and masks in the stockpile, a devastating problem that has haunted the response to COVID-19 (Diamond 2020).

Additionally, the US Health Department and Homeland Security Department cut preparedness funding by nearly \$900 million between fiscal

years 2010 and 2011 (Department of Homeland Security 2015). Columbia University's National Center for Disaster Preparedness (NCDP 2011) experts warned, "The preparedness budget cuts may make it difficult for the nation, and the country's public health agencies and workforce to achieve the goals set by the White House and the CDC for national health security. The New York metropolitan area, in particular, is at greater risk for large-scale catastrophic events, and cannot afford to be less than maximally prepared." Weighing in from a very personal perspective, Lisa Monaco, Obama's Homeland Security Adviser between 2013 and 2017, stated that she was often disquieted in the dark hours of the night worrying about an emerging infectious disease (NYLaw 2020).

The 2017 outgoing Obama team warned the Trump administration of a potential infectious disease with COVID-19's reach and devastation, which was built on the playbook and lessons learned from their experience with Ebola, H1N1, and other health crises. The Trump team was walked through hypothetical scenarios of a respiratory illness that was framed as the worst pandemic since the 1918 flu, and they were told how to prepare for challenges like ventilator shortages and insufficient personal protective equipment (PPE) (Budrick 2020). The Obama officials also warned their successors to be ready to act fast. In a handout given to the Trump team, they were told, "in a pandemic scenario, days—and even hours—can matter" (Sofier 2020). Top health preparedness

official, Robert Kadlec, continued with a warning of the financial constraints that would lead to the shortages of PPE and medical devices at a Senate hearing in January 2018. “We don’t have a sustained level of funding—a line item for pandemic influenza, for example—that would give us great confidence in long-term planning” (US Senate 2018). In just two years, this was a projection that the world would face head-on with fatal consequences.

COVID-19

The *New York Times* reported, “It started small. A man near Seattle had a persistent cough. A woman in Chicago had a fever and shortness of breath.... By mid-February, there were only 15 known coronavirus cases in the United States, all with direct links to China” (Watkins 2020). Yet, alarms were sounding at a MEDINT unit situated on a US Army base at Fort Detrick, in Frederick, Maryland. Intelligence, science, and medical professionals at the National Center for Medical Intelligence (NCMI) were monitoring and tracking global health threats that could endanger US troops abroad and Americans at home. At least one hundred epidemiologists, virologists, chemical engineers, toxicologists, biologists, and military medical experts, all schooled in intelligence tradecraft, work at this MEDINT unit. The center’s intelligence targets are medical and scientific issues. Its products, like those of the rest of the intelligence community, are predictive analysis and products for warning, produced in four divisions, whose ex-

perts follow developments in infectious disease, environmental health, global health systems, and medical science and technology. According to NCMI former Director Air Force Col. Dr. Anthony M. Rizzo, the organization’s mission is not to tell the public what is happening. “It is our responsibility to tell policymakers and planners ... what we believe is going to happen” (Pellerin 2012). On February 25, 2020, NCMI did just that. They alerted policymakers and federal officials that within thirty days the coronavirus would progress from WATCHCON 2—a probable crisis—to WATCHCON 1—an imminent one (Reichman 2020).

The NCMI warning was shared with numerous defense and health officials, including the Secretary of Health and Human Services. Its February 25 warning was included in an intelligence briefing provided to the Joint Chiefs of Staff. It is uncertain if this warning was shared with the President. But, as early as January 2020, the US intelligence community included a detailed explanation of the potential cataclysmic disease in Wuhan, China, based in part on wire intercepts, computer intercepts, and satellite images, in the President’s Daily Brief (PDB). The PDB is a summary of all-source information and analysis on national security issues produced for the President, key cabinet members, and advisers (Just Security 2020). In use since 1946, this classified document is meant to be read and is now coordinated by the ODNI. According to *ABC News* (2020), “That same day [of being given pandemic information], Trump, who was in New Delhi, India, tweeted:

“The Coronavirus is very much under control in the USA.” Why there was a disconnect between data and action continues to be debated.

The Spanish Flu

The Spanish Flu followed the same pattern of infections and controversial mismanagement as COVID-19, demonstrating how quickly an infectious disease can spread and establishing that hours are critical in managing the increase of infection and that affective public awareness is mandatory for consensus and public health. Like COVID-19, the Spanish Flu started with what was perceived as an isolated incident that would not harm the larger population. By September 1918, the Spanish Flu had been spreading through the army and naval installations in Philadelphia, but Wilmer Krusen, Philadelphia’s Public Health Director, assured the public that the stricken soldiers were only suffering from “the old-fashioned seasonal flu” and that it would be contained before infecting the civilian population (Roos 2020). A parade to honor veterans was held on September 28, 1918, in Philadelphia, despite numerous health officials’ warnings calling for quarantine. Infectious disease experts warned Krusen that a parade would be “a ready-made inflammable mass for a conflagration” (Malsevic 2020). On September 30, 1918, the Philadelphia Inquirer reported that 200,000 people had attended the parade. Just 72 hours after the parade, all thirty-one of Philadelphia’s hospitals were full, 45,000 people were sick

and 2,600 people were dead (Panjawani 2020). Both the College of Physicians Philadelphia Medical Library and the Pennsylvania School of Nursing archives confirmed these numbers (Barbara Bates Center n.d.).

In Figure 1, the newspaper clipping indicates the lukewarm response by Philadelphia health officials. Health officials “warn against the results of fright and urge a calmness from which the best results of public and individual cooperation may be obtained,” which clearly contradicts the evidence that even in 1918, infectious diseases spread quickly and decisive action would be needed within hours to curb the rise in infection and fatality. In places where facemasks and lockdowns were ordered to contain the Spanish Flu, a slowdown of the infection rate occurred. An article from the *Proceedings of the National Academy of Sciences* concluded, after careful study of the Spanish Flu incidents, spread of infection, mortality rates, and recorded evidence of public behavior, that public awareness and changes in behavior had a major role in the slowdown of the first wave of Spanish Flu. Not surprisingly, Philadelphia’s response was considered the worst in the nation (Goldstein 2009).

Unlike Philadelphia, St. Louis flattened the curve by clear and unwavering public awareness campaigns and definitive mandates demanding changes in public behavior. Even before the first case of the Spanish Flu had been reported in St. Louis, Health Commissioner Dr. Max Starkloff had local physicians on high alert and wrote an editorial in the *St. Louis Post-Dispatch*

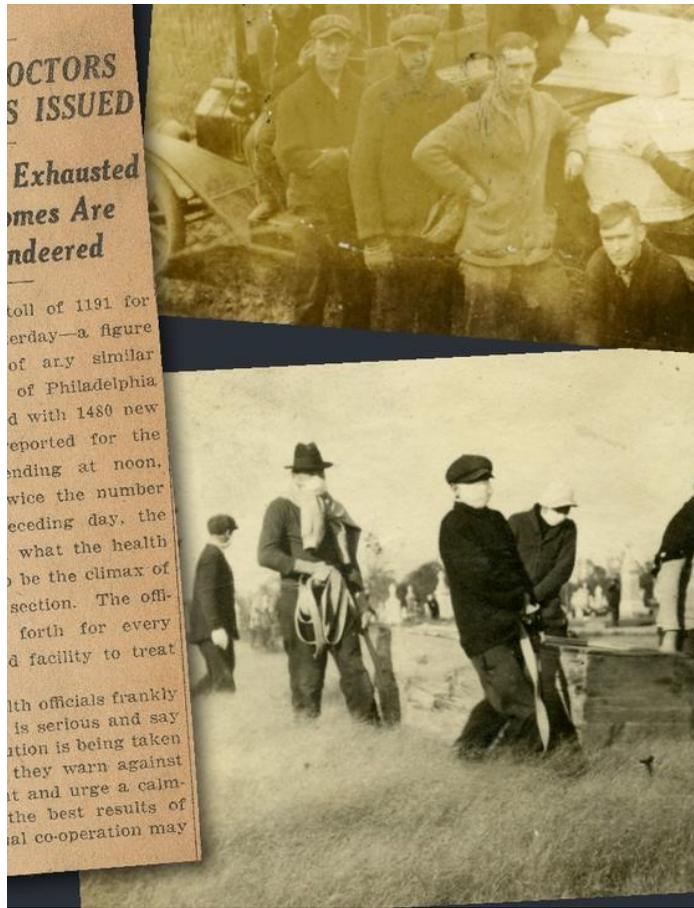


Figure 1. This 1919 photo from the Pennsylvania Historical Society is analogous to the 2020 COVID-19 news coverage. C/o Pennsylvania Historical Society.

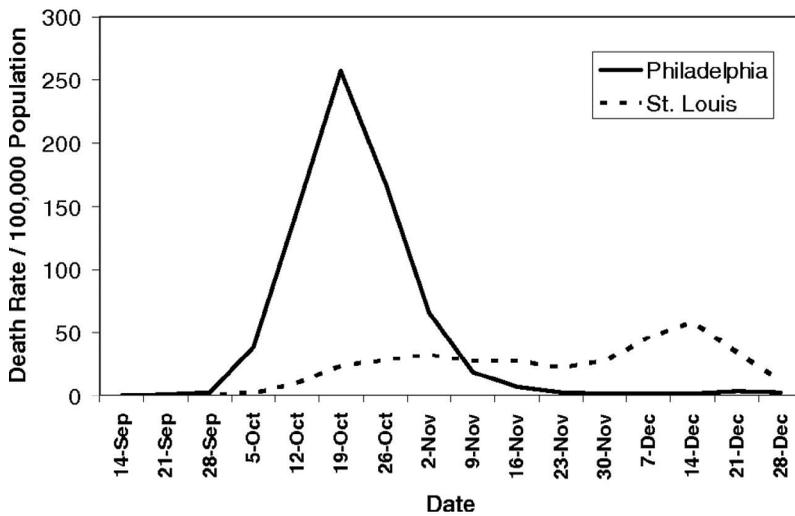


Figure 2. Hatchett (2007).

directed to the public about the importance of avoiding crowds. Also, he made decisions resolutely and quickly. After the Spanish Flu outbreak at a nearby military barracks first spread into the St. Louis civilian population, Starkloff wasted no time closing the schools, shuttering movie theaters and pool halls, and banning all public gatherings. There was pushback from business owners, but Starkloff and the mayor held their ground. As shown in Figure 2 and according to a 2007 analysis of the Spanish Flu death records, the peak mortality rate in St. Louis was only one-eighth of Philadelphia's death rate (Little 2020). According to the National Institute of Public Health (2007), "In cities where public health officials imposed multiple social containment measures within a few days after the first local cases were recorded, this cut peak weekly death rates by up to half compared with cities that waited just a few weeks to respond."

In addition to public awareness campaigns, San Francisco, like other western cities, got behind the wearing of facemasks, and most people complied. California Governor William Stephens declared that it was the "patriotic duty of every American citizen" to wear a mask and San Francisco eventually made it the law. Citizens caught in public without a mask or wearing it improperly, referred to as "mask slackers," were arrested, charged with "disturbing the peace," and fined \$5. Another punishment also included having your name printed in the newspaper, which, for most people, was embarrassing. Unlike in 2020, in 1918 most people felt that your name

should only appear in print for your birth, death, and marriage. Similar to COVID-19, mask-wearing rules were difficult to enforce, but most citizens complied. In one documented incident, a special officer for the San Francisco board of health shot a man who refused to wear a mask (Little 2020).

Mask Wearing, History Lessons, and Public Opinion

Mask wearing is only one part of the effort to slow contagion, along with closing public places. One hundred years have passed since the Spanish Flu. Scientific inquiry, medical advances, and intelligence gathering have outpaced previous generations during the 1900s and through the twenty-first century, yet historical lessons and a playbook from the Spanish Flu show us that humans are reluctant to change behaviors and that history is sometimes doomed to repeat itself. Currently, in the 2020 COVID-19 pandemic, many people do not wear masks and business owners are reluctant to enforce mask-wearing rules. Not enforcing mask-wearing rules might stem from officials who are concerned about the economic implications (or about exercising authority), like the July 2020 edict from Governor Brian Kemp of Georgia overruling Atlanta Mayor Kesha Lance's mandate that people must wear a face covering in Atlanta due to rising COVID-19 cases (Romo 2020). Many officials, frightened by unrest and severe economic uncertainty, are terrified that imposing face-mask restrictions and mandates would

erode the confidence of the American public. Simply put, frightened people do not shop.

Yet, even with scientific data and officials that support mask wearing, many individuals choose not to wear masks. Reasons for not wearing masks include the following: they feel hot and stuffy, masks cause undue fear, people are protecting their first amendment rights, the virus is fake news, the virus is media hype, masks cause medical problems, mask-wearing is a type of oppression, God is in control, and masks are image breakers—i.e., they are not cool or masculine (Lee 2020). Also, many public and political figures, like President Trump, do not endorse wearing masks. President Trump only made two appearances with masks in July 2020.

An important variable in controlling contagion is empathy and ideas of the benefit of the public good, but individual rights and divisiveness have grown exponentially in America, and this growth has been compounded by the mixed messages from political leaders and political parties. According to Pew Research (2020), more Democrats wear masks than Republicans, and more college graduates and people of color wear masks than non-college graduates and white people. Additionally, there is a documented rural vs. urban divide in both politics and mask wearing. According to Kathy Cramer, a University of Wisconsin-Madison Political Scientist and author of *The Politics of Resentment*, “There’s general mistrust toward government regulations in rural America ... the idea that the government is not attentive enough to the

actual challenges of rural communities is not new ... the pandemic seems to have deepened some of the resentment that’s been there for a long time” (NPR 2020).

Science Denialism

Additionally, the distrust of science, which seems to have gained significant momentum in the twenty-first-century, seems to be driving many people’s actions, even though science, and its supporting facts, clearly show the right course of action for curbing infection rates. The harm of denying science, which has already been witnessed in the uptake of childhood diseases like measles, has larger consequences than those for one individual and their family. Americans increasingly seem to belong to a society that does not embrace scientific thinking, which is coupled with many of our public officials not incorporating the best scientific evidence and knowledge into their public policies. Some of the myths that abound in treating COVID-19 include drinking bleach as a treatment, taking hydroxychloroquine as a treatment or prevention, or the argument that warm air kills the virus.

Science denialism is also wrapped up in an extreme version of American individualism, and the right to believe what you want to believe regardless if it kills you, your family, or others, which denies expert opinion. Author Ethan Seigel (2020) stated, “All of the solutions that require learning, incorporating new information, changing our minds, or re-evaluating our pri-

or positions in the face of new evidence have something in common: they take effort. They require us to admit our limitations; they require humility. And they require a willingness to abandon our preconceptions when the evidence demands that we do. The alternative is to live a contrarian life where you're actively harming society." And society is being harmed. The United States, as of July 2020, has the highest number of cases of COVID-19 in the world and preventative measures would have saved people's lives and COVID-19 from spiking.

After lockdowns expired after phase two and American cities and counties started opening up public spaces in the spring of 2020, about 36,000 deaths nationwide could have been avoided by early May had social distancing begun earlier. As of July 1, 2020, the United States reported 52,789 new coronavirus cases on the largest single-day total since the start of the pandemic. States that eased their restrictions, like Texas, Florida, California, and Arizona, have seen a new surge in cases and increased hospitalizations. America's top infectious disease expert, Anthony S. Fauci, warned that the country could begin to see 100,000 new cases a day "if this does not turn around" (Fox 2020)

Economic and public pressure to reopen businesses, theaters, and public places played a role in the Spanish Flu and caused the infection to rebound, killing 1.5 million Americans from September 1918 to February 1919 (Hatchett 2007). In 1918, San Francisco ended up suffering some of the highest death

rates from the Spanish Flu nationwide. If San Francisco had kept all of its anti-flu protections in place through the spring of 1919, it could have reduced deaths by 90 percent (Little 2020). In San Francisco, there were 45,000 total cases, with 3,000 deaths between fall 1918 and winter 1919 (San Francisco Examiner 2019). Similarly, as of July 27, 2020, the US has had 146,546 deaths, with predications of at least a quarter of a million deaths before the year is out (CDC 2020).

The Way Forward and MEDNIT

As the Trump administration and local governments continue to lift restrictions, these may or may not be lessons learned to consider. Many economic experts and statistics point to a depression that may rival another early twentieth-century disaster, the Great Depression. The idea of getting the wheels of the economy rolling is fueling political decisions and judgments, but a recent resurgence of COVID-19 in states that have embraced reopening have shown us that continuing on that path is like encouraging the Titanic to go faster toward the iceberg.

COVID-19 is also proving to be a watershed moment in MEDINT and the intelligence community as a whole with more effort and funds being earmarked for bio-surveillance and bio-threat management of contagions. According to a former senior official at NCMI, the MEDINT unit operated on a "shoestring effort to analyze open-source data, including news media, social media and scientific literature" that

he said was fairly successful (Daliania 2020). NCMI predicated second and third waves of COVID-19 if appropriate measures were not taken in terms of contact tracing, public awareness, quarantines, and lockdowns. While public behavior and cities may not be adhering to guidelines, funding is being directed at new MEDINT initiatives.

The Intelligence Advanced Research Projects Activity (IARPA) has issued a call for research proposals designed to better predict and react to global pandemics. “Technology solutions for COVID-19 will require creative, multidisciplinary methods, paradigm-changing thinking, and transformative approaches,” IARPA’s Deputy Director for Research Dr. Catherine Cotell stated. “Our goal is to advance ground-breaking technologies that will help the intelligence community and the country prepare for and recover from pandemic events” (Dalian 2020). Despite warnings from NCMI about second and third waves of COVID-19, which are playing out in many US states during the summer of 2020, and pandemic warnings from three administrations, MEDINT has been something of a backwater in the vast \$80 billion American spying apparatus. To the extent that germs were seen as a security threat, it was largely related to potential bioweapons, not naturally occurring diseases. COVID-19 is reshaping how the intelligence community manages and responds to bio-threats.

Besides funding and future forecasting of the next pandemic, how MEDINT is codified will need to be revamped for the intelligence and med-

ical community to provide threat assessments, evaluations, and recommendations for policymakers. Intelligence analysts need more knowledge about which collection sources and field experts are available in the specialized field of biosecurity and bioterrorism, because there are a significant number of groups and individuals that make up the larger picture of bio-threats. Physicians’ offices, hospitals, first responders, law enforcement, signals intelligence, human intelligence, geospatial intelligence, and the scientific community, with its specialized knowledge, all have information that is critical for analysis, improvement, and coordination. Yet sifting through this Big Data is like “looking for needles in a stack of needles,” according to Denis Kaufman, who worked at the NCMI before retiring. Additionally, the personnel needed for contact tracing is significant (Dalian 2020).

Unlike organizations such as the World Health Organization, which only have access to open-source materials that have errors or purposeful lapses in data reporting, NCMI has access to classified intelligence collected by the seventeen US intelligence agencies. MEDINT analysts can dig into signals intelligence and intercepts of communications collected by the National Security Agency. It can read information that CIA officers pick up in the field overseas. The National Geospatial-Intelligence Agency can share satellite imagery and terrain maps to help assess how an infectious disease is spreading through a population. As one analyst stated, “Every day, all of us would come

into work and read and research our area for anything different—anything that doesn't make sense, whether it's about disease, health care, earthquakes, national disaster—anything that would affect the health of a nation" (Associated Press 2020). The amount of classified and open source data that needs to be handled in terms of management, access, and analysis is daunting.

Lack of information, misinformation, and the weaponization of information also add to the success and accuracy of analysis. Analysts are at the mercy of the information that they have and that they do not have. They do not collect intelligence. They analyze it and produce MEDINT assessments and forecasts and databases for infectious disease and health risks from natural disasters, toxic materials, bioterrorism, and certain countries' capacity to handle them. Their reports are written for military commanders; defense health officials; researchers; and policymakers at the Department of Defense, the White House, and federal agencies, especially the Department of Health and Human Services (HHS). The team's success comes in providing early warnings that prevent illness. That can be difficult if a country does not report or share information out of fear that the news will affect its economy, tourism, or its presidential or public image, as seen in China and Russia during the COVID-19 pandemic.

Information from countries trying to downplay the seriousness of an epidemic cannot be trusted. For example, massive amounts of information came out of China, where the first re-

ports of the novel coronavirus surfaced in Wuhan. However, because an authoritarian government runs the country, the NCMI MEDINT researchers gleaned information from the local level, not Beijing. "Researchers, in some cases, have more success in learning information from the bottom up—not from the central communist government, but from localities," a policy expert stated. "That's where some guy in Wuhan might be saying 'I can't report this because I don't want to look bad to my boss' or there's a guy who says he can't talk about avian flu because his cousin runs the bird market and doesn't want to hurt his business" (Modern 2020). Additionally, many undeveloped countries with poor healthcare systems are not able to compile good data due to a lack of resources, testing, and the ability to report and manage information. All of these variables add another layer to analysis, assessment, and making sound recommendations. Even in the United States, data validity regarding COVID-19 deaths and illness has been questioned. Dr. Danny Neal said that hospitals receive \$1,000 for every COVID-19 death and this may lead to inaccurate reporting. Also a variable is the lag time of COVID-19 testing; many deaths may be attributed to COVID-19 when that might not be the case (Neal 2020).

Besides data integrity, there must be intelligence analysts fit for purpose. Just like other technologically enabled threats such as cyber, "no amount of increased investment in analytical capability can produce analysts that will be able to anticipate all possible tra-

jectories of such a complex evolving threat environment as biotechnology,” according to Patrick Walsh (2008), author of *Intelligence, Biosecurity, and Bioterrorism*. In his book, he supports the warning in the *Global Trends Report*, produced by the National Intelligence Council. This report forecasted that a “sinister shift could be the wider access to lethal and disruptive technologies such as bioterror weapons and cyber instruments, which could offer a means for individuals and small groups to inflict large-scale violence and disruption” (ODNI 2012). Also, the report states that human and animal health will become increasingly interconnected. Growing global connectivity and changing environmental conditions will affect the geographic distribution of pathogens and their hosts, and, in turn, the emergence, transmission, and spread of many human and animal infectious diseases. COVID-19 is the tip of the iceberg. Unaddressed deficiencies in national and global health systems for disease control will make infectious disease outbreaks more difficult to detect and manage, increasing the potential for epidemics to break out far beyond their points of origin.

Walsh feels there will be a challenge in creating analysts with the ability to work on complex emerging bio-threats and risks, which also requires agencies and communities where analysts work to “function more effectively” (Walsh 2018). Walsh asserts there needs to be a paradigm shift in how agencies within the bio-threat community assess and manage bio-threats before a non-state actor, country against US policies,

criminal agent, unbalanced person, or virus in a wet-market starts a zombie apocalypse. Importantly, there is a need for a centralized bio-threat department similar to the Department of Homeland Security. Also, like the Director of National Intelligence, all of the currently siloed MEDINT needs to be centralized and accessible.

Trust and Transparency

As of July 15, 2020, the federal government requires hospitals to bypass reporting COVID-19 data to the CDC in an effort to centralize COVID-19 information, but this move has caused considerable controversy with stakeholders (HHS 2020). In the *COVID-19 Guidance for Hospital Reporting and FAQs For Hospitals, Hospital Laboratory, and Acute Care Facility Data Reporting Updated July 10*, hospitals are required to input COVID-19 data daily into TeleTracking™ (<https://teletracking.protect.hhs.gov>), an independent data tracking firm for the HHS. Some of the twenty-eight variables to be reported include the number of COVID-19 patients each hospital is treating, the demographics of those patients, and the number of available beds and ventilators.

While the HHS insists this will help the COVID-19 taskforce make important decisions and resource allocations, many stakeholders are concerned. Alarming, this database will not be accessible to the public or researchers, which has caused many to feel that the COVID-19 information will be distorted and weaponized, since

the numbers will no longer be transparent to the public or the CDC. Four of the CDC's former directors, spanning both Republican and Democratic administrations, stated in the *Washington Post*, "One of the many contributions the CDC provides our country is sound public health guidance that states and communities can adapt to their local context—expertise even more essential during a pandemic, when uncertainty is the norm. The four of us led the CDC over a period of more than 15 years, spanning Republican and Democratic administrations alike. We cannot recall over our collective tenure a single time when political pressure led to a change in the interpretation of scientific evidence. The data collection shift reinforced those fears" (Freiden 2020). According to medical experts, this change resulting in the HHS managing medical data exposes the vast gaps in the government's ability to collect and manage health data, which they feel is antiquated.

US Senator Patty Murray stated she had, "several questions about the Trump Administration's decision to award a multimillion dollar contract on a non-competitive basis to create a seemingly duplicative data collection system." Senator Murray detailed how the contract seems to duplicate the work done by the CDC's National Healthcare Safety Network (NHSN) by creating a second mechanism through which hospitals can report the same information already collected through NHSN (US Senate 2020). "The whole thing needs to be scrapped and started anew," said Dr. Dan Hanfling, an expert

in medical and disaster preparedness and a vice president at In-Q-Tel, a non-profit strategic investment firm focused on national security. "It is laughable that this administration can't find the wherewithal to bring twenty-first-century technologies in data management to the fight" (Lanese 2020). Dr. Hanfling and others agree that information needs to be centralized, but they disagree on how that should happen. Dr. Hanfling is calling for a new "national data coordination center" that would be used for "forecasting, identifying, detecting, tracking and reporting on emerging diseases" (Lanese 2020). Representative Donna E. Shalala of Florida, who served as health secretary under former President Bill Clinton, said the CDC was the proper agency to gather health data. If there were flaws in the CDC's systems, she said, they should be fixed. "Only the C.D.C. has the expertise to collect data," Ms. Shalala said. "I think any move to take responsibility away from the people who have the expertise is politicizing" (Stolerg 2020).

Conclusion

The key takeaways from the Spanish Flu and the tsunami of issues with the COVID-19 pandemic are a need for a collective understanding of believing scientific data and its correlation to disease and that days and hours are critical in response time to emerging bio-threats. Additionally, a proactive approach to medical support in terms of ventilators, treatment facilities, testing, etc. must be paramount so that football teams do not have to

buy medical support equipment for their hometowns. There needs to be a consensus among political leaders, parroted by their constituents and public, that facemasks, social distancing, and the value of the common good is significant and useful. As of July 2020, the United States has a higher coronavirus mortality rate than Brazil. A quarter of the world's COVID-19 deaths are in the United States, and America is a country that has 4.25 percent of the world's population (Menand 2020). Additionally, data integrity and reporting must be streamlined and not politicized, both monumental undertakings.

The slogan Make America Great Again and Massachusetts Bay Colony Governor John Winthrop's 1630 sermon, *A Model of Christian Charity*,

share some resemblance in they are both a call for action. Winthrop cautioned that the eyes of the world were on America and if people did not hold to a moral, law-abiding, just, and humanistic path, "we shall be made a story and a by-word throughout the world," people will speak "evilly" of Americans and bring about shame and curses "upon us all." Therefore, even with easily accessible data, highly trained analysts, and countries reporting accurate information, all will be useless if political divisiveness and government officials stand in the way of scientific advice and intelligence briefings, disregard recommendations or worse yet, if the people of a country call for liberty and deny science, and like lemmings, run off a cliff.

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Just Short of Cyberwar: A Focus on *Jus Ad Vim* to Inform an Ethical Framework for Cyberspace

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ABSTRACT

Cyber conflict has yet to reach the lethality that defines war. As such, it has become the preferred method of engagement for nation-states. However, in its current state, there is no ethical framework to guide the policymaker. This article focuses on the concept of *jus ad vim* (just short of war) to inform an ethical framework for cyber conflict. This proposed framework is founded on five separate concepts pulled from the literature: intentional cyberharm, preventative force, punctuated deterrence, cyber sovereignty, and international response. Herein, two pivotal case studies, the Stuxnet worm against an Iranian nuclear facility and the Israeli Defense Force's (IDF) use of a kinetic strike in response to a cyberattack, are explored using a Grounded Theory approach. This article concludes that these concepts, as demonstrated through the case studies, can form the basis for ethical decision-making across cyberspace.

Keywords: *jus ad vim*, cyberwar, cyber sovereignty, political warfare, Just War Theory (JWT), cyberspace

Poco antes de la guerra cibernética: un enfoque en *Jus Ad Vim* para informar un marco ético para el ciberespacio

RESUMEN

El ciberconflicto aún tiene que alcanzar la letalidad que define la guerra. Como tal, se ha convertido en el método preferido de participación de los estados-nación. Sin embargo, en su estado actual, no existe un marco ético para guiar al hacedor de políticas. Este artículo se centra en el concepto de *jus ad vim* (justo antes de la guerra) para informar un marco ético para los conflictos cibernéticos. Este marco propuesto se basa en cinco conceptos separados extraídos de la literatura; daño cibernético intencional, fuerza preventiva, disuasión puntuada, soberanía cibernética y respuesta internacional. Aquí, dos

estudios de caso fundamentales; el gusano Stuxnet contra una instalación nuclear iraní y el uso de la Fuerza de Defensa de Israel (FDI) de un ataque cinético en respuesta a un ciberataque se exploran utilizando un enfoque de teoría fundamentada. Este artículo concluye que estos conceptos, como se demuestra a través de los estudios de caso, pueden formar la base para la toma de decisiones éticas en el ciberespacio.

Palabras clave: *jus ad vim*, guerra cibernética, soberanía cibernética, guerra política, teoría de la guerra justa (JWT), ciberespacio

差点成为网络战：运用*Jus Ad Vim*提出一个网络空间伦理框架

摘要

网络冲突尚未达到能定义为战争的杀伤力。照此，网络冲突已成为民族国家的优先接触措施。然而目前看来，还不存在能指导决策者的伦理框架。本文聚焦于*jus ad vim*（不及战争）概念，以期提出一个针对网络冲突的伦理框架。该框架基于从文献中提取的五个不同概念：蓄意网络伤害、预防措施、间断威慑（*punctuated deterrence*）、网络主权、以及国际响应。使用扎根理论方法探究了两个关键性案例研究：以伊朗核工厂为目标的震网蠕虫病毒，和以色列国防军（IDF）为回应网络攻击而发起的动能袭击。本文结论认为，案例研究所证明的概念能形成网络空间的伦理决策基础。

关键词：*jus ad vim*，网络战，网络主权，政治战，正义战争理论（JWT），网络空间

Introduction

The ethical considerations for both deciding to enter a war (*jus ad bellum*) and the conduct once embattled in war (*jus in bello*) are well established. These ethical tenants comprise the underpinnings of the Just War

Theory (JWT). While vital relative to war, much of today's conflict, specifically cyber conflict, falls just short of war (*jus ad vim*). The study of *jus ad vim* is not well established, nor does an ethical framework exist to guide actions before or during these conflicts. This article focuses on the concept of *jus ad*

vim (just short of war) to inform an ethical framework for cyber conflict. This proposed framework is founded on five separate concepts pulled from the literature: intentional cyberharm, preventative force, punctuated deterrence, cyber sovereignty, and international response. When considered collectively, these concepts form a framework to aid in ethical decision-making.

In what follows, the first section provides a background discussion on war and the impact technology has had in its transformation. Specifically, the transition from conventional war and JWT to cyberspace and *jus ad vim* is addressed. This section is followed by an analysis of the ethics of war and conflict where gaps in current literature and understanding are made apparent. The third section addresses the application of Grounded Theory across two pivotal case studies: the Stuxnet worm and the Israeli Defense Force (IDF) kinetic strike in response to a cyberattack. These two studies serve as forerunners in the advancement of cyber conflict. As such, these case studies provide fertile ground to build an ethical framework for the application of *jus ad vim* in cyberspace. The article concludes with an analysis of the state of cyber conflict and advocates for the establishment of an ethical framework across the entire spectrum of *jus ad vim* within cyberspace.

Background

The impact of technology on warfare is comparable to the evolution of information collection.

Hammes (2004) chronicles the generations of warfare and in doing so lays out the role of technology in the advancing of military tactics. For example, maneuverability is the defining characteristic of the third generation of warfare (Hammes 2004, 13). The technological advances of “reliable tanks, mobile artillery, motorized infantry, effective close air support, and radio communications” surpassed the trench warfare of World War I, thus creating the conditions for a highly maneuverable fighting force (Hammes 2004, 13). Similarly, the creation of information technologies has created the modern ecosystem referred to as cyberspace. The speed, ubiquity, and anonymity of these technologies have fundamentally changed the tactics of information collection and the strategies that guide them. As such, it is essential to examine how war and cyber conflict intersect.

The last time the United States declared war was in World War II; not even the fight against global terrorism, dubbed the “war on terrorism,” reaches the high-water mark of an official declaration of war (Bradley and Goldsmith 2005, 2048; Schwartau 1998). Correspondingly, the US has “diplomatically and politically avoided the term [war] in the interests of ‘peace’” (Schwartau 1998, 55). Notably, no war has resulted from cyber actions. Indeed, to date, “no one has ever been killed by a cyber capability” (Perkovich and Levite 2017, 4). Perhaps it is the promise of cyber lethality that has generated the concept of cyberwar, as lethality is war’s defining feature (Dipert 2010, 386). Some researchers see the potential severity of

cyberattacks as satisfying the *casus belli* (just cause) for going to war; this also aligns with the equivalence principle, wherein a significant cyberattack could justify a military response (Dipert 2010, 405; Kello 2017, 196).

In its current state, cyberwar is more indicative of a politically motivated cyber struggle, where attribution is tenuous, and maintaining intellectual property and state secrets are the measures of success, not a body count. The reality of today's cyber engagements appears to be more aligned to the concept of political warfare through the cyber domain, than to a cyberwar. "In the broadest definition, political warfare is the employment of all the means at a nation's command, short of war, to achieve its national objectives" (Blank 2017, 82). There is no doubt that the United States is engaged in "intense cyberconflict" with other nation-states; however, none of these conflicts has risen to the level of war (Singer and Friedman 2014, 121). That means that all actions in cyberspace, up until now, have been short of war. The ability for one nation to impose its will on another, absent a war, is political nirvana.

There is no expectation that technology will plateau, and states will enter a form of cyber-stasis. As stated in the National Cyber Strategy: "America's prosperity and security depend on how we respond to the opportunities and challenges in cyberspace. Critical infrastructure, national defense, and the daily lives of Americans rely on computer-driven and interconnected information technologies. As all facets

of American life have become more dependent on a secure cyberspace, new vulnerabilities have been revealed, and new threats continue to emerge" (National Cyber Strategy 2018, 1).

Similarly, the US military recognizes five military battlespaces – land, sea, air, space, and cyberspace. As the world has grown in complexity and connectivity, traditional concepts that have defined military objectives, such as terrain and borders, have become increasingly blurred and ambiguous. "There are no longer battlespaces that operate independently, or more to the point, independent of cyberspace; as cyberspace is the battlefield from which all battlefields are amplified" (Lewis 2019). The Department of Defense (DoD) considers cyberspace to be "a part of the so-called *information environment*, defined as the 'aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information'" (Porche, Sollinger, and McKay 2011, 19). To this end, the information environment includes both government and commercial entities, bringing to bear vast capabilities across the entire spectrum of information operations (IO) (Armistead 2004; DoD 2018).

Significantly, cyberspace functions as operational continuum, where cyber conflict is a constant. War, on the other hand, is distinctly defined through time. This dichotomy gives rise to the urgency in need for ethical guidelines within cyberspace. It is in this context that the application of *jus ad vim* (just short of war) can aid in un-

derstanding how current ethical frameworks focused on JWT are inadequate for the weaponization of cyberspace. As Michael Walzer (2015, 85) argues, “it is obvious, for example, that measures short of war are preferable to war itself whenever they hold out hope of similar or nearly similar effectiveness.” *Jus ad vim* has found advocacy in policing actions and military measures short of war (MMSoW), with emphasis on use-of-force and less-than-lethal methods (Brunstetter and Braun 2013; Ford 2013; Kaplan 2019). In its current state, cyberwar does not exist in the context of JWT.

The extent of the relationship between cyberspace and war is unclear. On the one hand, cyberspace provides a conduit for war. On the other hand, it may become the manifestation of war itself. What is clear, however, is that cyberspace will play a pivotal role in all future actions in furtherance and defense of national objectives. Correspondingly, there is a need for moral clarity in cyberspace; by applying *jus ad vim* (just short of war) to cyberspace, this research aims to take a step forward in providing such clarity.

Review of the Literature

A literature review was conducted to determine the current state of *jus ad vim*. There is a scarcity of academic writing on *jus ad vim* and specifically its application to cyberspace. As such, every attempt was made to utilize primary sources from peer-reviewed academic journals, conference proceedings, and technical re-

ports from cybersecurity researchers. However, secondary sources were included when no primary sources were available. Secondary sources included news articles, security blogs, and books in determining the current state ethics as they pertain to *jus ad vim* in cyberspace.

Two themes dominated the review. The first reveals that the principles that comprise JWT are the de facto standard by which the ethical nature of conflict is measured. Second, the idea of *jus ad vim* and its applicability outside the framework of JWT is under contention. As such, the argument for an ethical framework operating outside of war, hence outside the principles of JWT, is not unanimous. To date, the application of *jus ad vim* can be observed primarily in use of force models within law enforcement and MMSoW, neither of which address cyberspace, nor put forth an ethical framework.

It is nearly impossible to analyze the ethics of war, or actions *just short of war*, outside of the framework of JWT. JWT reflects the works of the great philosophers Augustine (345–430) and Thomas Aquinas (1225–1274) (Dorbolo 2001; Orend 1999, 324). The two major sections of JWT are *jus ad bellum* and *jus in bello* (Brunstetter 2016; Dorbolo 2001; Frowe 2016; Macnish 2016, 96; Orend 1999, 344–45; Walzer 2015). *Jus ad bellum* is concerned with the justness of fighting a war, whereas *jus in bello* is concerned with the actions once the war commences (Orend 1999, 344–45). Walzer’s (2015) seminal work frames the importance of mor-

al clarity in war. He asserts that JWT is about war and “moral philosophy” (2015, 335). As such, Walzer is a strong advocate for JWT.

That said, Walzer acknowledges that a space just short of war must exist; he refers to this as *jus ad vim*. He uses this concept to explain a state’s assertion of power that does not meet the criteria of war (Ford 2013, 64). “The analytical starting point of *jus ad vim* is identifying certain categories of violence as falling short of war, and thus not governed by these special privileges” (Brunstetter 2016, 133). The concept of *jus ad vim* is appealing, as the manner, if not nature, of war, has evolved. Several theorists, Walzer among them, attempt to apply *jus ad vim* to new technologies and methods of employment to highlight its usefulness: specifically, the use of drones (Brunstetter 2016, 132; Ford 2013, 68; Frowe 2016, 119; Galliot 2016, 174; Kaplan 2019).

Some scholars debate the need for *jus ad vim* (Brunstetter 2016; Ford 2013; Frowe 2016). Helen Frowe and C.A.J. Coady contend that *jus ad vim* is not a panacea, nor is it entirely well established (Ford 2013; Frowe 2016). The limited implementation of *jus ad vim* is not surprising, as the nature of conflict, its conduct, by whom, and from where have become fluid. Walzer’s initial examination of *jus ad vim* was itself limiting, as his vision for application applied strictly to “collective security” (Ford 2013, 65).

Frowe contends that those advocating for *jus ad vim* lack the requisite depth of understanding of JWT. Whereas others, such as Brunstetter (2016)

and Ford (2013), contend that JWT is inadequate for areas outside conventional warfare. Conversely, Frowe believes advocates of *jus ad vim* place “unwarranted weight on whether something counts as war” (Frowe 2016, 122). Arguably, the literature is unsure if actions in cyberspace constitute an act of war or whether JWT is the correct ethical framework (Barrett 2017; Beard 2016; Dipert 2010; Kuru 2017). The majority of the literature agrees that operations in cyberspace can constitute a use of force (Barrett, 2017; Dipert 2013; Foltz 2012, 40; Kuru 2017; Schmitt 2013; Stockburger 2016), with Wortham being a rare exception only in that she differentiates cyberattacks from cyber exploitation (2012, 645).

Lastly, the *Tallinn Manual on the International Law Applicable to Cyber Warfare* represents the acknowledgment that international laws are noticeably absent within the realm of cyberspace and that clarity surrounding the definitions, laws, and ethical frameworks needed to advance modern society is needed (Barrett, 2017; Foltz 2012; Rota 2018; Schmitt 2013). The strength of cyberspace lies within its resiliency. Conversely, the resilience obtained through a fault-tolerant persistence also makes attribution and signal detection questionable, meaning that the cyberspace milieu casts doubt on the degree of guilt and culpability of action. As such, the lack of international law is problematic, as the tactic of mirroring traditional policy, such as the all or nothing policy of deterrence, is not a realistic solution for cyberspace (Kello 2017, 197).

Despite the contretemps among scholars seeking to understand and define the ethical boundaries for modern conflict, *jus ad vim* holds the promise of adding clarity to the debate (Kaplan 2019). In doing so, it may well provide policymakers with an iterative framework from which to base their ethical decisions as they grapple with the nuance of cyber conflict.

Methods

This research explores the utility of *jus ad vim* as it applies to cyber conflict, by examining two cyber firsts: the Stuxnet cyberattack against Iranian nuclear centrifuges and the IDF's kinetic airstrike in response to a Hamas cyberattack. These attacks serve as milestones in cyber conflict and highlight the inevitable conflation of the physical and virtual realities of modern society. Further, the rapidity of technological and political change demands urgency in defining the ethical and legal issues facing policymakers. As such, each case study is examined via five principles: intentional cyberharm, preventative force, punctuated deterrence, cyber sovereignty, and international response.

Intentional cyberharm provides for the expansion of cyber acts and actors to include both cybercrime and civilians. The idea of intentional cyberharm is not constrained by physical damage, although Stuxnet certainly achieved that; instead, it is broad enough to cover the majority of harm conducted by cyber means, such as state-sponsored cybercrime and IO.

Intentional cyberharm is significant in cyberspace, as cyberspace encompasses entire populations, not just state actors. As such, intentional cyberharm can accommodate the individual actor and nation-state actions. The intentionality of harm can be problematic in cyberspace. For example, many standard network tools can serve a dual purpose from which nefarious acts can be committed intentionally or not. That said, malicious software contains the intent of its author in its code and subsequent execution.

Preventative force provides for a moral obligation to act in preventing escalation. Preventative force, as Arquilla writes, "is a strategic construct designed for using a modicum of violence to thwart the rise of a fresh danger, to keep an ongoing conflict from widening, or perhaps most important, to avoid the outbreak of a large-scale conflict" (2017, 99–100). In the case of cyberspace, a preventative force need not necessarily rise to the level of violence, but may reside in assertive action. "The Tallinn Manual group of experts agree the 2009 Stuxnet cyberattack against Iran's nuclear facilities constituted 'use of force,' but they are divided on whether it constituted an 'armed attack'" (Oxford Analytica 2019).

Punctuated deterrence is "an approach that accepts the possibly insurmountable limitations of denial while rejecting the policymakers' pervasive obsession with absolute prevention. Instead, it calls for more flexible logic of punishment that addresses not single actions and particular effects, but *series* of actions and *cumulative* effects" (Kello

217, 197). No defense is impenetrable. In cyberspace, the advantage favors offensive operations. By accepting a level of adversarial success, the defense becomes free to allocate limited resources to the most critical areas, rather than the strategy of attempting to protect everything, all the time, from everyone. Punctuated deterrence changes the economics for the attacker. As such, punctuated deterrence enables the policymaker to prioritize resources for self-defense.

Cyber sovereignty defines boundaries, providing clarity on spheres of influence and defense. The preservation of sovereignty is inextricably linked to war. Michael Walzer (2015, 51–52) mentions both territorial integrity and political sovereignty as the borders by which states define themselves and, consequently, actions against them. Historically, sovereignty is about control. Specifically, “supreme authority within a territory” (Philpott 2016). Although “as the world has grown increasingly entangled, traditional concepts that have defined military objectives, such as terrain and borders, have become increasingly blurred and ambiguous” (Lewis 2019). It comes as no surprise then that states are seeking to expand their influence and the idea of sovereignty across cyberspace.

As physical resources aid in establishing the power of the state, so too in cyberspace. Advanced states, given their resources, have more influence; this extends to cyberspace, wherein states are increasingly becoming cyber-centric, thus transforming into

cyber-states. A cyber-state is defined herein as a nation-state, dependent on cyberspace, wherein the entirety of the state, including its government, citizenry, and infrastructure, seamlessly integrates technology across its society for the advancement of its national defense and political goals.

Authoritarian regimes such as China and Russia have made significant moves toward controlling the content of internet traffic into and out of their respective countries. Also, by leveraging a series of legal and technical measures to ensure that their versions of cyber sovereignty reflect “the stance that cyberspace should be defined and ruled by state boundaries” (Iasiello 2017, 1). In this vein, China and Russia could be viewed as early adopters of the notion of “Cyber Westphalia,” wherein it is predicted that “most states will delineate borders in some measure across the formerly ungoverned, even chaotic cyberspace substrate” (Demchak and Dombrowski 2013, 36).

As states attempt to solidify what cyber sovereignty could mean to them, a part of that equation will likely include the legality and morality of actions in the event of a cyberattack. For instance, can a cyberattack constitute a breach of sovereignty? In its current state, cyberattacks have not reached the level of cyberwar, meaning that states do not see them as a threat to their sovereignty. The lack of concern is likely to change if cyber sovereignty is established and internationally accepted.

The international response serves as a “pseudo court” for accept-

ability of action. Correspondingly, lawyers are trained in analogical reasoning. Meaning, as new events occur, lawyers look to the past to identify precedent to apply to the new situation (Texas A&M School of Law Media 2015, 01:43). Additionally, international lawyers observe state responses to acts of aggression as a barometer for the legal and political threshold (Fidler 2011). In other words, how states respond sets the tone for international norms. States may demonstrate a controlled response if they calculate the cost of an attack too high. This is “what some thinkers call ‘self-deterrence,’ whereby the attacker decides not to attack because he believes that the negative consequences will affect him as well” (Kello 2017, 201). In the end, international response to conflict serves as a basis for judging the morality of action.

The research contained herein is confined to the moral guidance offered by *jus ad vim* to “uses of state power short-of-war” (Ford 2013, 65). However, cyberspace consists of far more participants than those responsible for state actions; therefore, the principles of *jus ad vim* should not be restricted to state actors.

Grounded Theory enables the development of a theory by discovering patterns in data (Scott 2009). The method contained herein leverages the Paradigm Model of Grounded Theory, where causal conditions of a phenomenon are represented by technological change and the avoidance of war declarations (Miller and Fredericks 1999, 538). The phenomenon examined are

two case studies representing significant shifts both in context and the intervening conditions, wherein one represents a clandestine operation and the other an implementation of overt force.

Moreover, the strategies and actions that result have demonstrated the consequences of cyber conflict as a means in furtherance of state goals without an ethical framework. As the variables of an ethical framework for actions just short of war are yet undefined; the commonalities and differences between conventional war, as depicted in JWT and the dynamic nature of cyberspace viewed through *jus ad vim*, will aid in developing variables for future research.

Case Study: Stuxnet

I ran’s 2006 response to unsuccessful negotiations with the United States and European leaders was to resume its uranium enrichment program at the Natanz facility (DeViscio et al. 2017; Langer 2013, 7–8). By 2008, engineers at the Natanz facility were experiencing a variety of malfunctions and breakages in their centrifuges (DeViscio et al. 2017; Gates 2012). The engineers experienced “low morale,” as the seemingly inexplicable malfunctions appeared beyond their reasoning (Singer and Friedman 2014, 117). The possibility of being the victim of a cyberattack was never considered, for two excellent reasons. First, the systems in the Natanz facility were air-gapped and, therefore thought to be impenetrable to cyberattack. Second, no cyberattack had ever been capable of physical damage, and the

centrifuges were experiencing physical damage (Singer and Friedman 2014, 117).

Discovered in 2010, Stuxnet is the name given to the most advanced computer worm ever created. A computer worm is a self-replicating software program designed to traverse from computer to computer across a network. In the case of Stuxnet, the worm contained four zero-day exploits. A zero-day is an unknown software vulnerability, making them both rare and valuable. Furthermore, the worm was highly specific in its targeting, targeting only “a specific type of program used in Siemens WinCC/PCS 7 SCADA control software” (Singer and Friedman 2014, 116). The control systems referred to as SCADA are defined as “an acronym for Supervisory Control And Data Acquisition, a category of computer programs used to display and analyze process conditions” (Langer 2013, 9). Additionally, the industrial controllers targeted were only those that were configured as a “cascade of centrifuges of a certain size and number (984) linked together ... the exact setup at the Natanz nuclear facility” (2014, 116).

In the absence of official acknowledgment, Stuxnet remains an enigma. “To date, no country or group has claimed responsibility for developing what has been termed by some as ‘the world’s first precision guided cybermunition’” (Kerr, Rollins, and Theohary 2010, 2). However, the resources and skills required to create and successfully infiltrate Stuxnet into its intended target indicate nation-state sponsorship.

Initial analysis indicated that “countries thought to have the expertise and motivation of developing the Stuxnet worm include the United States, Israel, United Kingdom, Russia, China, and France” (2010, 2). Later, it was leaked to “have been a collaborative effort between US and Israeli intelligence agencies, known as ‘Olympic Games’” (Singer and Friedman 2014, 117–18).

The mission of Stuxnet is believed to be to penetrate the Natanz uranium enrichment facility in Iran and create the conditions to cause the centrifuges to fail (Gates 2012; Kerr, Rollins, and Theohary 2010; Langer 2013, 11; Singer and Friedman 2014, 116; Zetter 2014). The ability to infect air-gapped systems is so difficult that designing air-gapped systems remains a cybersecurity best practice. Nevertheless, the creators of Stuxnet were able to penetrate the air-gapped systems within the Natanz facility, thus introducing the worm into a controller computer (DeIviscio et al. 2017; Fidler 2011, 57; Foltz 2012, 44; Gates 2012; Kerr, Rollins, and Theohary 2010, 4; Kushner 2013, 50; Zetter 2014).

Purportedly, the Olympic Games operation set the Iranian nuclear capabilities back by “a year and a half or two years” (DeIviscio et al., 2017, n.p.). The first known instance of a cyberattack to cause physical damage in the real world, Stuxnet has been referred to as “history’s first field experiment in cyber-physical weapon technology” (Langer 2013, 3). Nevertheless, there was no cry of war, no suitable counterstrike, only a feeble attempt to

downplay its effectiveness by the Iranian regime (Fidler 2011, n.p.). Stuxnet remains an enigma as it broke all convention crossing the cyber and physical barrier while seeming warlike and peacekeeping at the same time.

Analysis

Cyberspace (Porche, Sollinger, and McKay 2011, 19) and cyberwar are portmanteaux, blending the words cyber and space/war. That said, however eloquently the terms blend, the concepts remain apart. Cyberwar, as defined herein, does not exist. A great failing of the *Tallinn Manual on the International Law to Cyber Warfare* is that the group of experts reinforces the notion that JWT applies to cyber operations (Schmitt 2015, v). Strictly speaking, current cyber operations are a step removed from the lethality that defines war (Dipert 2010, 398). The current operating environment, from a nation-state perspective, is that of a political war. As others have noted, “Political warfare is the logical application of Clausewitz’s doctrine in time of peace. In broadest definition, political warfare is the employment of all the means at a nation’s command, short of war, to achieve its national objectives” (Blank 2017, 82). That is not to say that cyberwar cannot exist, as the confluence of technology and war will continue to mature to the point where a war without cyberwar will become unthinkable. It appears inevitable that the ultimate maturation of any technology for the masses is its application within war. These dual-use technologies are the

bedrock of modern warfare, with nuclear technology as its shining example.

An attack on a sovereign state’s nuclear facilities is undoubtedly an act of war; however, a cyberattack is a different matter. Stuxnet was a cyberattack aimed at the heart of the Iranian nuclear program. The cyberattack caused physical damage to the centrifuges and unequivocally hampered Iranian state ambitions. Remarkably, Stuxnet did not cause a cyberwar, nor did it cause a conventional one. As such, the ethical considerations and subsequent moral framework fall outside JWT. It is imperative to examine Stuxnet through the prism of *jus ad vim* rather than of JWT, since cyberwar is noticeably absent.

Intentional Cyberharm

The duality of cyber-based technologies reflects the need for additional considerations outside the JWT. Randall Dipert (2010, 397) introduces the concept of intentional cyberharm (intentional cyberattacks) as a term sufficiently broad for cyber-ethics. A cyberattack can have sweeping implications. For example, “The emergence of the Stuxnet worm is the type of risk that threatens to cause harm to many activities deemed critical to the basic functioning of modern society” (Kerr, Rollins, and Theohary 2010). As such, Stuxnet appears to be a textbook example of Dipert’s concept of intentional cyberharm. That is to say, one or more “political organizations or their military services” intentionally caused harm, via the cyber domain, to another “political organization or their military services”

(Dipert 201, 398). The Stuxnet code was crafted in a manner that was highly specific in identifying and harming targeted infrastructure.

Preventative Force

Significantly, Stuxnet was crafted in such a way that it only harmed its intended target, had built-in controls to become inert, and contained a self-destruct mechanism with an expiration date (Singer and Friedman 2014, 116, 119). Stuxnet embodies the concept of preventative force, as made apparent in delaying the Iranian nuclear program. Whether or not this was the intention can be debated; however, by using an effects-based approach, as favored in the Tallinn Manual, Stuxnet was remarkably successful in the application of a preventative force (Kuru 2017, 52).

As Ford asserts, “Walzer argues that while preventative war is normally not justifiable, under certain specific conditions, we might be able to justify preventative force” (2013, 66). Walzer underestimates the application of preventative force in cyberspace, as it is arguably a current best practice from a nation-state perspective. Put another way, nation-states not engaging in preventative force are substantially diminishing their ability to impose their will within cyberspace. In this context, Stuxnet was designed to fulfill a preventative in stalling nuclear escalation.

Punctuated Deterrence

Stuxnet serves as a modern example of cyber diplomacy. As negotiations surrounding Iran’s nuclear program fal-

tered, Iran countered with a renewed emphasis on its uranium enrichment program. In the context of punctuated deterrence, the creators of Stuxnet recognized the inevitability of Iran continuing its nuclear program; therefore, they sought to change the economics by not only inhibiting its acceleration but through the demonstration of a capability far beyond that of the rest of the world’s cyber-powers, let alone Iran’s. The message was clear, the continuation of the program, without negotiations, will be countered, possibly with previously unknown capabilities.

Cyber Sovereignty

Did Stuxnet infringe on the cyber sovereignty of Iran? In its current state, cyber sovereignty is more of an idea than a reality. Furthermore, Iran arguably lays no claim to cyber sovereignty as they lack the maturation of cyber defense. In this vein, Iran was not capable of launching any counterattack, cyber or kinetic, as no attribution was evident, and war remains a disfavored option. Sovereignty, cyber or otherwise, cannot be asserted if it cannot be defined and protected.

International Response

Self-deterrence was a significant factor in the international reaction to Stuxnet. Stuxnet was the shot heard around cyberspace. It broke from theory and demonstrated something the world had never seen. Only an unwise adversary would not question what more the creators could be capable of in light of this demonstration. The natural paucity of

action stemming from the awe-inspiring technological leap may explain the deafening silence from international lawyers and policymakers. This is likely one of the reasons that it did not escalate to a war—that and the fact that Iran could not engage in a cyberwar, and conventional war was also unlikely with the creators of Stuxnet, as they did not appear to have any intention of going to war, only preventing one, a nuclear one at that.

Comparatively, as Arquilla (2017) points out, “Iranian and international reactions were likely far more muted than would have been the case in the wake of an air raid, a missile strike, or a commando attack” (108). Significantly, according to NATO, cyber operations fail to achieve a level of violence that equates them to military operations; as such, NATO is reluctant to respond (Blank 2017, 83). For Stuxnet, this rings especially true, as no lives were lost, and only the intended targets were impacted, leaving no collateral damage. It would be difficult for any state to obtain international support for an escalation to war for what amounted to some broken parts.

Case Study: Israeli Defense Force’s (IDF) Kinetic Response to Cyber Operations

The Islamic Resistance (Hamas) seized control of the Gaza Strip in 2007. Since that time, there have been a series of conflicts with Israel (Central Intelligence Agency 2019). Beginning in 2012, Hamas has conducted a series of increasingly sophisti-

cated cyberattacks against Israel (Dostri 2018). The attacks progressed from attacks on websites to Distributed Denial of Service attacks to social engineering to implanting spyware on mobile phones (Dostri 2018). Starting in May 2018, the Palestinians “have stepped up protests that sometimes featured incendiary balloons sent into Israel and improvised explosive devices and grenades. Israel has responded with deadly fire it said was necessary to protect its border. The two sides have inched closer to their fourth war in the past decade, with every truce interrupted by new spasms of violence” (Schwartz and Lieber 2019, n.p.).

Consistent with its tragic history, fighting broke out during the first weekend of May 2019 between Hamas and the IDF. The fighting was the typical exchange of Hamas rockets and mortar shells with Israeli airstrikes in response (Cropsey 2019; Gross 2019; O’Flaherty 2019). However, the intensity of the exchange was atypical. As reported, “The fighting raged all weekend. Over 600 rockets were fired toward Israel from the Gaza Strip, while Israeli forces conducted strikes on what it said were more than 250 military targets in the Palestinian enclave” (Schwartz and Lieber 2019, n.p.). Nevertheless, the volume and intensity of the munitions exchange were not the defining moment of the conflict. That distinction came in the form of an Israeli response to a Hamas-launched cyberattack during the kinetic engagement.

The cyberattack launched on May 4, 2019 by Hamas was claimed to be aimed at “harming the quality of

life of Israeli citizens” (Cropsey 2019, n.p.). In response to the cyberattack, which IDF claims to have thwarted, was to counter with an immediate airstrike, destroying the building containing Hamas’s cyber operations (Gross 2019). “Israel’s response marks the first time that a country has used immediate military force to destroy a foe’s cyber capability in an active conflict” (Cropsey 2019; Liptak 2019).

The cyberattack by Hamas highlights their evolution. Israel had been carefully monitoring Hamas’s foray into cyberspace and witnessed their slow increase of capabilities (Shahaf 2018). Slow in cyberspace is a relative concept, as technology growth and exchanges can quickly fill a capability void. To this end, Israel had been a victim of previous Hamas cyberattacks, illustrating that they have grown “bolder in the tactics” (Dostri 2018, n.p.). It is likely that Hamas’s increasing cyber capabilities were aided by its supporters. “Hamas, probably with Iranian assistance, established a headquarters to conduct cyber operations. This is probably why Israel responded decisively in both the cyber domain and in the physical world” (Cropsey 2019, n.p.). That said, the intensification of cyber-based capabilities within a terrorist organization presents another level of malevolence, thus exhibiting a clear and present danger.

Analysis

The inclusion of the kinetic strike in response to a cyberattack appears outside of *jus ad vim*; however, it is not. In this case, Israel and Hamas are not at war,

and the effects of the counterstrike did not cause war. This cyber-first is included to highlight the increasing pervasiveness of cyberspace, as terrorist organizations such as Hamas have moved beyond online recruitment into cyber operations. The entrance of terrorist organizations, such as Hamas, into cyber-based operations, signifies an inevitable increase in intentional cyberharm.

Intentional Cyberharm

Hamas intended to increase the level of harm on the streets of Israel when it conducted a cyberattack against Israel during a conventional kinetic engagement (Cropsey 2019; Gross 2019; O’Flaherty 2019). Israel’s immediate kinetic response to the cyberattack indicates that this scenario was considered and decided in their military planning prior to the engagement (Cropsey 2019). What is unknown is the Israeli requirements for such a forceful response. Presumably, as depicted in the Tallinn Manual, “its scale and effects are comparable to non-cyber operations rising to the level of a use of force” (Schmitt 2013, 22). What is clear is that the Israeli leadership felt its populace sufficiently threatened and thereby it felt justified in its response.

Preventative Force

Not all cyberattacks are created equal, nor do they all elicit the same response. It may be, as Finley (2016) suggests, “only some types of cyber-attack are equivalent to armed, kinetic attack, and give prima facie warrant for armed, kinetic defence” (358). In the case of

the Israeli response, since the cyberattack was not successful, it is unclear if the attempt and the intent are ethically equal to the effects in deciding to conduct a kinetic counterattack. It may well be that the position was that of deterrence through a preventative force model, wherein Hamas had achieved a level of cyber capability that was no longer deemed an acceptable risk to the State of Israel. In this light, destroying Hamas's cyber capability presumably saved Israeli lives in the long run.

Punctuated Deterrence

The Israeli stance toward Hamas's offensive cyber capability can be considered through the concept of punctuated deterrence. The series of concerted efforts on the part of Hamas to penetrate the IDF and Israeli leadership are prime conditions for punctuated deterrence, as the series of actions on the part of Hamas warrant an appropriate reaction from Israel. In the case of the kinetic response, it is evident that Hamas had crossed the Israeli threshold for implementation of a deterrent.

The choice of a kinetic response sends a strong message, as Israel is an elite cyber-state, or as Prime Minister Benjamin Netanyahu contends, Israel is "a global cyber security power" (Globes 2016, n.p.). As such, a cyber response is always an option for any form of aggression. The decision to destroy a capability rather than thwart its effect is significant and cannot be taken out of the context of the prolonged engagement history of the parties involved. The decision to destroy Hamas's cyber

operations could be as simple as Israel not wanting to engage the terrorist organization on two fronts simultaneously (cyber and physical). The exact reasons for the employment of a kinetic response are not known; however, the cost for a cyberattack aimed at harming Israeli citizens has significantly increased.

Cyber Sovereignty

By comparison, Israel is in a far better position to assert the concept of cyber sovereignty as they are one of the most capable cyber-states in the world (Globes 2016). As such, Israel possesses the ability to defend and extend its cyber reach. Effectively, from a cyber perspective, it is the supreme authority within the territory. Hamas, on the other hand, can make no such claim (Shahaf 2018). Despite their increasing cyber capabilities, they lack the defensive capability and offensive skill and capacity to rule over a cyber dominion. Further, Hamas was the aggressor in cyberspace, as such, they would have had to breach Israeli networks. A breach of Israeli networks could be viewed as a breach of its cyber sovereignty.

International Response

The first real-time kinetic counterstrike to a cyberattack received a response similar to that of Stuxnet: hardly a ripple. In international terms, no response is interpreted as a form of acquiescence. The implications are far-reaching in that the stakes for engaging in cyberspace, which can hardly be avoided, have increased significantly. The argument can

be made that the international community is against a nuclearized Iran and the increasing capabilities of the terrorist organization Hamas (Department of State 2017). From this perspective, both the cyberattack that unleashed a new cyber weapon in Stuxnet and the immediate kinetic strike in response to a terrorist-based cyberattack have given pause to the international community as it struggles to determine the ethical boundaries in cyberspace.

Conclusion and Discussion

The nature of conflict has changed. Cyberspace provides greater reach, anonymity, and influence whereby states can assert their agendas. “While states have always used sublethal harms to weaken adversaries economically, militarily, ideologically, culturally, and politically, technological developments have magnified the regularity and effectiveness of these practices, particularly against free societies” (Barrett 2017, 467). These two cyber firsts, Stuxnet and the IDF’s kinetic response to a cyberattack, are pivotal moments that changed the nature of cyber conflict and set the precedent for future conflict. The lack of international response has permitted its increased use as a method of political warfare.

For example, Reuters recently reported that the US carried out a “secret cyber strike on Iran” in response to the Iranian attack on Saudi Arabia’s oil facilities on September 14, 2019 (Ali and Stewart 2019, n.p.). Ali and Stewart (2019) claim that it is a way for the

US to counter Iranian aggression without escalating into a war: *jus ad vim* par excellence. As in the case studies discussed herein, the effectiveness is made apparent in the absence of war.

There is no expectation that technology will plateau or that states will enter a form of cyber-stasis. Policymakers acknowledge as much; therefore, it is necessary to look for signs of the type of change that will shift from the current state of *jus ad vim* into a cyberwar. As former President Obama is credited with stating: “The USA, for instance, has adopted the principle that retaliation against cyber-attacks may take the form not only of cyber-counter-attack but also attack by conventional military means” (Finley 2016, 358). Indeed, a kinetic response to a cyberattack may be the best indication of increasing dependence on cyberspace; thus, its debilitation may elicit such a response, rapidly creating the conditions for cyberwar.

The ethical framework defined in this article provides the phronesis for the application of *jus ad vim* in cyberspace. How states continue to pursue their interests in and through cyberspace has global ramifications for security and privacy. Furthermore, actions in cyberspace will remain under the watchful eye of the international community, as it continues to struggle with determining normal within the inchoate framework of international cyber law.

This article leverages the concepts of intentional cyberharm, preventative force, punctuated deterrence, cyber sovereignty, and international response as they apply to *jus ad vim*

in cyberspace. These concepts, viewed through the Stuxnet worm and the Israeli airstrike in response to a cyberattack, set the stage for the development of an ethical framework for cyberspace. The importance of this research lies in aiding the development of ethical considerations for cyberspace and providing moral clarity for the policymaker. Additional future research opportunities abound surrounding the triumvirate of cyberspace, ethics, and the law.

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Socio-Ecological System Impacts of Anthropogenic Pollution on New River Communities in Belize

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ABSTRACT

Changes to the New River in northern Belize, Central America, including an annual eutrophication event near the river's primary urban setting, have had multiple impacts on New River communities. This mixed-method study examines perceptions of New River changes from forty-two resident interviews in twelve riverside communities using phenomenology and chi-square tests of independence methods. This study finds five categories of socio-ecological system (SES) impacts from anthropogenic pollution to residents; river pollution (exacerbated by drought conditions) impacts human health, livelihoods, environment, culture, and social justice. There are implications for community future uncertainty, powerlessness, and lack of trust in industry and government. Comparing zones in the study, the research found statistical significance in six factors. Pollution and other river changes were perceived to originate from a variety of sources, primarily industrial drainage. Government leadership, along with industry, agriculture, and community stakeholders, can facilitate solutions to safeguard the New River and its communities.

Keywords: socio-ecological systems, Belize, eutrophication, pollution, health, climate change, livelihoods

Impactos del sistema socioecológico de los antropogénicos contaminación en las comunidades de New River en Belice

RESUMEN

Los cambios en New River en el norte de Belice, Centroamérica, incluido un evento de eutrofización anual cerca del entorno urbano principal del río, tienen múltiples impactos en las comunidades de

New River. Este estudio de método mixto examina las percepciones de los cambios de New River a partir de 42 entrevistas con residentes en doce comunidades ribereñas utilizando fenomenología y pruebas de chi-cuadrado de métodos de independencia. Este estudio encuentra cinco categorías de impactos del sistema socioecológico (SES) de la contaminación antropogénica a los residentes; La contaminación de los ríos (agravada por las condiciones de sequía) tiene impactos en la salud humana, los medios de vida, el medio ambiente, la cultura y la justicia social. Hay implicaciones para la futura incertidumbre, impotencia y falta de confianza de la comunidad en la industria y el gobierno. Al comparar zonas en el estudio, la investigación encontró significancia estadística en seis factores. Se percibió que la contaminación y otros cambios fluviales se originaron en una variedad de fuentes, principalmente drenaje industrial. El liderazgo del gobierno, junto con la industria, la agricultura y las partes interesadas de la comunidad, pueden facilitar soluciones para salvaguardar el New River y sus comunidades.

Palabras clave: Sistemas socioecológicos, Belice, eutrofización, contaminación, salud, cambio climático, medios de vida

人类污染对伯利兹新河社区产生的社会-生态系统影响

摘要

中美洲伯利兹北部新河（New River）的变化，包括每年在靠近该河的主要城市范围出现的富营养化事件，对新河社区产生了多重影响。本研究使用混合方法—现象学研究方法和卡方独立性检验，分析在12个河岸社区进行的42次居民访谈中关于新河变化的感知。本研究发现，人类污染对居民造成的社会-生态系统（SES）影响分为五类，水污染（干旱情况下加剧）对人类健康、生计、环境、文化以及社会正义都产生了影响。研究发现对社区未来的不确定性、无力感、产业和政府的信任缺乏具有意义。通过比较不同区域，发现六个因素中存在统计学显著性。污染与其他河流变化被认为源自一系列来源，主要是工业废水。政府领导力和产业、农业以及社区利益攸关方能共同促进形成解决方案，保护新河及其社区。

关键词：社会-生态系统，伯利兹，富营养化，污染，健康，气候变化，生计

Introduction

Communities are dependent upon healthy rivers and watersheds; any changes to the ecological condition of a river can have impacts on watershed communities (Parkes et al. 2010; Postel and Richter 2012). On the New River in northern Belize, there is an annual eutrophication event, exacerbated by ongoing drought conditions, in and near Orange Walk Town (the river's main urban setting). Multiple sources of anthropogenic pollution over the past decades have contributed to the eutrophication of the New River, including agricultural runoff, industrial drainage, and urban solid waste disposal (SACD 2017; Wu et al. 2000). This study examines New River resident perceptions about the causes and impacts of anthropogenic pollution. New River residents rely on the river for their well-being and livelihoods and are vulnerable to pollution impacts. The study finds five categories of socio-ecological system (SES) impacts from anthropogenic pollution to residents; river pollution (exacerbated by drought conditions) impacts human health, livelihoods, environment, culture, and social justice. There is a need to mitigate reasonably foreseeable pollution impacts and safeguard the future of the New River and its communities. Solutions and recommendations of this study are specific to future research, government leadership in pollution management practices, and the participation of community stakeholders (i.e., residents, business owners) as effective conduits for governance and management of the New River. The article has

the following sections: Background (history, ecology, climate, pollution sources, eutrophication); Mixed methodology; Thematic results (systemic impacts of anthropogenic pollution); Limitations of the study; Discussion and Implications; Conclusion; and Recommendations.

Background

Ecology and History of the New River

In northern Belize, the New River is a slow-flowing tidal river from inland Belize to Chetumal Bay, a brackish estuarine system (Esselman and Boles 2001). Made of limestone bedrock (Esselman and Boles 2001), the New River watershed occurs within the Orange Walk and Corozal Districts of Belize (Figure 1). The river originates from the New River Lagoon near Lamanai Archaeological Reserve and flows north-northeasterly to Chetumal Bay.

Historically, the New River was a major trading route for the Maya. In the 1800s, British loggers used the river as means of transporting logs to the Caribbean Sea for loading onto ships for export to Europe (Dobson 1973). Currently, the New River attracts tourists as a major conduit to the Lamanai Archaeological Reserve; the river also provides a transportation route for the sugar factory barges to deliver sugar and molasses to cargo ships in the bay. The New River is also locally used for fishing, hunting, and recreational swimming and is a source of livelihoods for local fishermen, tour operators, and businesses.



Figure 1. Map of Belize with approximate New River location (blue line), Guide to Belize, 2019.

Riparian Forests and Wildlife

The New River watershed contains a variety of riparian vegetation including broadleaf forest, shrubland, savanna, and herbaceous swamp and mangrove; the watershed also includes agricultural lands and urban development (SACD 2017). Riparian forests in Belize are habitat for a variety of wildlife, including several bird species, Morelet’s crocodile, Hickatee river turtle, and freshwater fish species (Meerman, Boomsma, and Arevalo 2015). However, there is an increasing rate of forest and biodiversity loss from natural and increas-

ingly anthropogenic causes, namely the agriculture industries of banana, sugar cane, and citrus (Cherrington et al. 2012; Young 2008); pressures on rivers and forests also include climate change, pollution, degradation, and riparian and coastal development (Ruscalleda 2016; Young 2008; Young et al. 2006).

Climate Change

Climate change, particularly lasting drought conditions and storm intensification, is a contributing factor to New River degradation. Since 2014, there has been an ongoing drought in the

Central American region (FAO 2017). In 2019, the drought was exacerbated by the El Niño–Southern Oscillation event, making rainfall forecasts unpredictable (NMSB 2019). Drought can both degrade riparian forests and result in less river water volume (Garssen, Verhoeven, and Soons 2014). Chemical runoff and other pollutants can be concentrated in a smaller volume of river water (E. Boles, personal communications, August 2019) which can have human health and wildlife impacts (Garssen, Verhoeven, and Soons 2014). Also, the intensification of storms and hurricanes contribute to river changes. For example, Hurricane Mitch in 1998 caused spill-over flooding of an aquaculture species (tilapia) from Crooked Tree lagoon to the New River watershed system; this allowed tilapia (an exotic species) to overtake local fish populations (Esselman, Schmitter-Soto, and Allan 2012).

Anthropogenic Pollution of the New River

The New River has experienced anthropogenic pollution from agriculture, industry, and waste runoff from riverside communities (SACD 2017). Pollution can contribute to river eutrophication. The largest amount of chemical waste pollution in the New River is agricultural industry and on-farm pesticide runoff (SACD 2017).

Agricultural runoff. There are approximately 5,000 sugar cane farmers in northern Belize (ASR-BSI 2014). Most of the district relies on local cane

farming, directly or indirectly, for their livelihoods. Agriculture chemical pollution reduces the water quality by impacting temperature, dissolved oxygen, and organic and inorganic compounds (SACD 2017). A continuous increase or accumulation of nutrients (i.e., nitrogen and phosphorus from agriculture fertilizers, discharge of wastewater, and sediment load) can exceed the capacity of a water system, triggering eutrophication changes that can result in more frequent fish kills, algal blooms, and health impacts on the communities (ENI 2016).

Industrial pollution. Large industries in Belize emit pollutants such as chemicals, sediment, nutrient enrichment, and metal pollution into river systems (Esselman and Boles 2001). Also, oils from machinery and barges can impact river systems. The Belize Sugar Industries (BSI) factory, located in Tower Hill village near Orange Walk Town, has been operational since 1967, processing sugar cane from local farmers into crystalline sugar and molasses (ASR-BSI 2014). This service contributes to 5 percent of the Belize’s gross domestic product and 6 percent of its foreign exchange earnings (ASR-BSI 2014).

Industrial effluent from BSI contributes to the degradation of the New River (SACD 2017). In a study on “cleaner production” opportunities for BSI, factory chemicals used during cane processing at BSI move into the wastewater stream, then to the wastewater treatment plant, and then into the New River system (Chicas 2008, 10). This industry wastewater may contain sug-

ar, residual fertilizers, and herbicides from the milled cane. “Presumably, fertilizer and agrochemicals are reaching local water supplies” (Esselman and Boles 2001, 54). Also, in processing sugar cane, there is the release of hot water from boiler houses (Esselman and Boles 2001). Water temperatures at a thermal discharge point on the New River surpassed the prescribed levels in BSI’s Environmental Compliance Plan (DOE 2016), particularly during cane grinding season (7NewsBelize 2019).

Waste runoff from communities.

Waste disposal from riverside communities, both solid waste (garbage) and non-solid waste (sewage, wastewater), contributes to New River pollution. Solid waste management in Belize, including storm water runoff, is inadequate; urban areas of Belize produce approximately 130 tons of solid waste daily or 200,000 tons annually (Grauet et al. 2013; Young 2008). Based on census information, roughly a third of Belizeans “dispose of residential solid waste in environmentally harmful ways including dumping the waste on land, burning waste, or throwing waste in rivers, seas, or ponds” (Grauet et al. 2013, 15). When improperly treated and disposed, waste run-off can have negative impacts on coastal and watershed resources. Ineffective waste runoff management, combined with the practice of clearing riparian vegetation to the river edge, can allow pollutants to directly enter the river system, degrade water quality, and increase pollution and sedimentation (Chicas, Omine, and Ford 2016).

Eutrophication

The New River has been experiencing annual eutrophication events of varying intensities for many years. Eutrophication is characterized by an excessive growth of algae and low (dissolved) oxygen in water, due in part to an increase of organic nutrients and pollutants (ENI 2016). Eutrophication is a natural process; however, human activity (cultural eutrophication) has accelerated the rate and intensity of the process through multiple sources, including: 1) agriculture, such as chemical fertilizers, manure, and aquaculture; 2) industry, such as nutrients, oils, and chemicals discharges; and 3) urban pollution, such as storm water runoff, septic tank leaching, and fossil fuel burning (Chislock et al. 2013; ENI 206; WRI 2019). Eutrophication severely reduces water quality and can have serious environmental, economic, and human health impacts, including surface algal growth (i.e., film), biodiversity loss (i.e., loss of fish, wildlife, and plant species), loss of tourism, sulfur-like odor and taste, and toxic ammonia and hydrogen sulfide levels (ENI 2016). The sulfur-like smell can be influenced by increases in water temperature and subsequent decreases in dissolved oxygen (Rajwa-Guligiewicz et al. 2015). During the time of this study (July 2019), a eutrophication event was occurring, with signs of fish kills, severe browning, and a surface film on the river and emission of a strong sulfur-like odor. In early September, 2019, La Inmaculada primary school, adjacent to the New River in Orange Walk Town, was closed for several days due to pollu-

tion-related complaints from students, including headache, nausea, and vomiting (BBN 2019).

Socio-Ecological Systems (SES)

The primary theoretical framework used for this study is SES theory. SES studies investigate multiple perspectives and linkages among social, cultural, economic, ecological, governance, equity, and other factors. Ecological changes such as anthropogenic pollution in watersheds are systemic, cumulative, and intertwined with human systems (Molnar and Molnar 2000). Rivers and human communities are linked in a system where an impact on one part of the system—pollution of a river—can impact human systems, such as health and livelihoods (Drexler 2019). The systemic nature of this study necessitates systemic examination using an SES framework. Dr. Elinor Ostrom, a Nobel Prize-winning political economist, developed the concept of SES using a multi-level and multi-perspectival framework of linkages, drivers, interactions, and outcomes. SES involves adaptive resource management, inclusion of multiple stakeholders, collective action, self-organizing, and bottom-up (community-based) inclusion of resource planning and management (Olsson, Folke, and Berkes 2004, 75; Ostrom 2009; Parrott et al. 2012). This study examines the perceived relationships, barriers, and pathways between anthropogenic pollution causes and impacts and New River communities.

Applied Research Methods

This study uses a mixed-method approach in which both quantitative and qualitative data are used. This study examines perceptions of New River changes from forty-two resident interviews in twelve riverside communities using phenomenology and chi-square tests of independence methods. Chi-square tests of independence were used to compare perception of river changes and impacts in three zones along the river. Phenomenology was used for deep descriptions and categorizing common lived experiences. Both methods allow for comparison and close examination of multiple impacting factors of river changes to New River communities. All interview questions and study protocols were approved by an Institutional Review Board; all interviews followed a voluntary and informed consent procedure. Interviews were audio-recorded for transcription and analysis purposes.

Quantitative Method

Demographic data collected was summarized and examined for central tendencies (means), range, and dispersion (standard deviations). Using IBM SPSS Statistics 23 software, chi-square tests of independence were performed to compare sub-populations and communities regarding their perceptions of economic, health, environmental, and other changes and impacts on the New River across the three zones in this study.

Qualitative Methods

Phenomenology and semi-structured interviews were used in this study to gather resident perceptions and describe and categorize common lived experiences regarding changes to the New River and their impacts on local communities. The phenomenological approach is multi-perspectival and systems-oriented to understand and describe common experiences by recognizing patterns, categories, and themes that emerge from interview data collected (Creswell 2013; Gall, Gall, and Borg 2007; Ravitch and Carl 2016). To identify emerging themes, categories, questions, or conceptual frameworks from the data, a combination of Strauss and Corbin (1994), Creswell (2013), LeCompte (2000), and Ravitch and Carl (2016) strategies of open (analytical), axial (reduction and clustering of categories), and selective coding (the intersection or integration of categories, or data synthesis) was used for the initial, intermediate and final data analysis and synthesis phases, respectively.

Setting and Participants of the Study

The study area includes twelve New River “hot spot” communities identified in the New River Watershed Assessment as having a high potential for impact from pollution (SACD 2017). New River watershed communities are primarily farming communities, which have similar social, ecological, and economic conditions; also, they are dependent on various socio-ecological conditions such as climate variability, water

quality, and markets (Drexler 2019). In the twelve communities (ten in Orange Walk District and two in Corozal District), forty-two residents were interviewed for this study in late July 2019 (Figure 2). For the purposes of the quantitative aspect of the study, New River communities were categorized into one of three zones: Upstream (San Carlos, Indian Church, Fireburn, Shipyard, Guinea Grass, and Tower Hill villages); Mid-River (Orange Walk Town, San Jose Palmar, and Trial Farm); and Downstream (San Estevan, Caledonia, and Libertad).

During the thirty-minute face-to-face interviews, participants were asked their historical knowledge and use of the river and their perceptions of changes to the river and any impacts on their families and communities. Households in each community were selected using a stratified random design. Participants selected to interview from each household were “purposive and prescribed from the start” (Goulding 2005, 302), as the study needed historical knowledge, use, and perceptions of the New River. Also, the study aimed to be gender-balanced, with a near-equal number of male and female participants interviewed. Participants were asked both survey questions (i.e., demographic, closed-ended questions) and open-ended questions, which allowed for rich description of river use and importance, SES impacts from pollution, and other perceptions.

Data Analysis and Synthesis

During data analysis, the study used a multi-perspectival SES framework to



Figure 2. Twelve New River communities in Upstream, Mid-River and Downstream zones.

find linkages between perceived factors. Previous exploratory studies in Belizean farming communities (Drexler 2017, 2019) provided guidance for using an SES framework and mixed-method approach. The qualitative analysis process uses LeCompte's (2000) five-step procedure and the S.P.E.E.C.H. tool (Drexler 2019), which aid in analyzing, coding, and categorizing data from interview transcripts. Major themes and categories from both quantitative and qualitative analyses are presented in the Results section.

Results

Mixed-method results are presented from forty-two semi-structured face-to-face interviews of New River residents in

northern Belize. The research finds four major thematic categories related to resident perceptions of the New River: 1) uses and importance of the New River to local communities; 2) ecological changes to the condition of the New River (including eutrophication); 3) anthropogenic (human-caused) changes to the New River, including pollution, resource overuse, and ineffective management; and 4) SES impacts from anthropogenic pollution on the New River, including impacts on health, livelihoods, the environment, and culture.

Descriptive statistics

Demographic information is presented in Table 1. Nearly half (54 percent) of the study participants are female. The average household size is 5.2 fam-

ily members per household. The age range of the participants is twenty-two to eighty-two years old. Seventy-three percent of the participants had either no formal education or achieved up to primary school level, which is con-

sistent with the 2010 country census report (SIB 2010). All participants except one had lived in their community ranging from ten to seventy-four years, with an average of 37 years living in the community.

Table 1. Characteristics of the sample of participants interviewed.

Sample size	N = 42	Male = 19	Female = 23
Zone	Upstream = 17	Mid-river = 13	Downstream = 12
Age (years)	Mean = 49	Min = 22	Max = 82
Household size	Mean = 5.2	Min = 1	Max = 15
Years in living community	Mean = 37.9	Min = 10	Max = 74
Education level	None = 4, Incomplete primary = 6, Primary = 21, Incomplete secondary = 4, Secondary = 4, Associates = 3		
Occupation	Farming = 7, Business = 6, Housewife/Domestic = 17, Other = 8, Retired = 4		

Uses and Importance of the New River to Local Communities

Participants in this study perceived the New River is important as a source for 1) nostalgia, recreation, and celebration and 2) nutrition, income, agriculture, and security during scarcity. Historical uses of the New River are presented in Figure 3. Examining historical uses and importance of the New River creates a foundation for understanding changes and trends related to the present-day status of the New River.

Nostalgia, recreation, and celebration. Participants in all zones of the study stated the New River has had multiple historical uses and has nostalgic or sentimental importance. A sixty-nine-year-old man from Guinea Grass said:

“The first Guinea Grass villagers used the river for everything.” He stated:

When I was a child and off from school for the summer, I used to go to the riverbank to entertain myself, to fish and to swim. There wasn’t potable water then and so we would consume that water. That river provided for the first people to settle in Guinea Grass, but at that time there were no industries. It was a beautiful river; there were fish everywhere, it was clean. It was the best in all of Belize ...

A fifty-year-old woman from Orange Walk said: “My dad would take us (up-river) sometimes—to take a little boat ride up the river or down that side We had more animals: Turtles, croco-

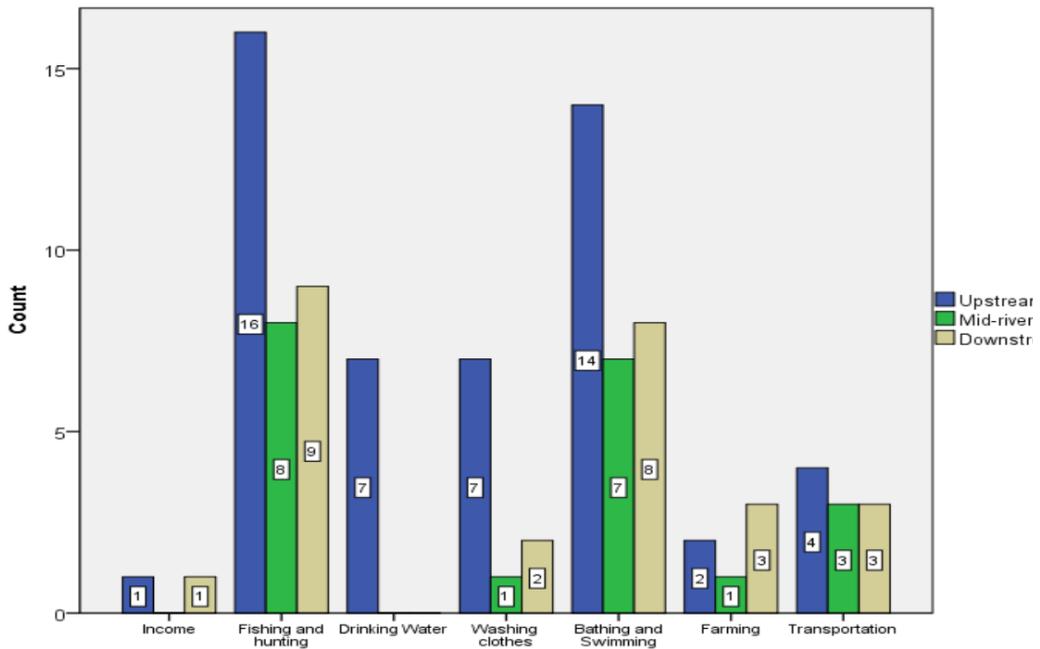


Figure 3. Historical uses and importance of the New River, comparison by zone.

dile, manatee.” Other participants stated they use or have used the river for (recreational) “bathing and swimming” (69 percent). A 52-year-old woman from Caledonia said people from other villages come during “Easter weekend to have fun by the river.”

Nutrition, income, agriculture, and security during scarcity. Participants stated the New River once provided a reliable source for fishing (both nutrition and income) and tourism income. A fifty-year-old woman from Orange Walk said the river has been a draw for tourists and birders. Today, however, there is low dependence on the New River for direct income (4.7 percent) of the participants interviewed. Seventy-nine percent (79 percent) of participants stated they once used the New River for “fishing and hunting.” A sixty-nine-year-old man from San Estevan

said fishing was easy, he used to bring in “sartas (lines) of fish” (for sale) and his children “grew up on fish.” Other participants stated they remembered “bocona,” “choc pinta,” and other local fish being abundant in the past.

Participants identified present-day agricultural importance of the New River, including crop irrigation, extinguishing cane fires, mixing agrochemicals, and drinking water for cattle. A thirty-year-old woman from Shipyard (a Mennonite community) and a fifty-year-old woman from Guinea Grass both stated their cattle “drink water from the river” and when there is water shortage, “water is taken in drums for cattle to drink.” A sixty-six-year-old farmer from Caledonia stated New River residents use the river water to mix agrochemicals to spray on sugarcane fields.

The New River has also been historically important for transportation and drinking water. A thirty-nine-year-old woman from Indian Church said they once used the New River for transportation to the village because there was no good roads back then. A fifty-three-year-old man from San Carlos said they used water from lagoon for drinking, but not since they got a water system two years ago; also, he said people used the river water to bathe and wash clothes before they built wells. Now, though, communities have reliable running water, electric systems, and good road access with public transportation, which has decreased reliance on the river over the years.

Ecological Changes to the Condition of the New River

Participants in the study perceived several signs of ecological changes to the condition of the New River, including sign of eutrophication, especially in the last twenty years. Six ecological changes are highlighted in this study, including 1) climate change and drought; 2) river water condition—color, turbidity, and sulfur-like stench; 3) fish populations—decreased numbers of fish and different species); 4) wildlife abundance and behavior; and 5) riparian forest clearing and riverbank erosion. Three categories were shown to be statistically significant in comparing responses in three river zones (Figure 4). Ninety percent of respondents reported changes to “fish populations” in the river; 62 percent reported changes in other animals (i.e. turtles, crocodiles, mammals,

etc.) and changes in “color and turbidity.” Perceived changes were similar in the mid-river and downstream zones; changes that differed significantly across the zones were decreases in the number of birds (Chi square=11.611, $p=.002$), changes in the number of aquatic wildlife (Chi square=13.888, $p=.008$), changes in color and turbidity (Chi square=18.127, $p=.001$), and changes in algae/smell of the river (Chi square=13.450, $p=.009$).

Climate change and drought. Drought conditions, a lower river level, and dying riparian vegetation were perceived by participants in this study. A thirty-four-year-old woman from San Jose Palmar stated the climate is getting hotter with less rain. A fifty-one-year-old man from Tower Hill stated the river level has lowered by about three feet. A sixty-six-year-old farmer from Caledonia stated the drought is “a problem for the cane fields. It’s August already, and the rains have not come.” Storms and floods were also mentioned by participants in this study, particularly Hurricane Mitch in 1998. Impacts from the hurricane are discussed in “Changes in fish species.”

River water condition. For the purposes of this study, changes to river water condition include color, turbidity, and a sulfur-like stench. Turbidity and color changes were perceived in the mid-river and downstream zones with descriptions such as: “greenish,” “yellow,” “blackened,” “brown and hot,” and “darker.” Changes in algae and smell (“apesta el agua”) were also perceived, usually occurring in June and July each

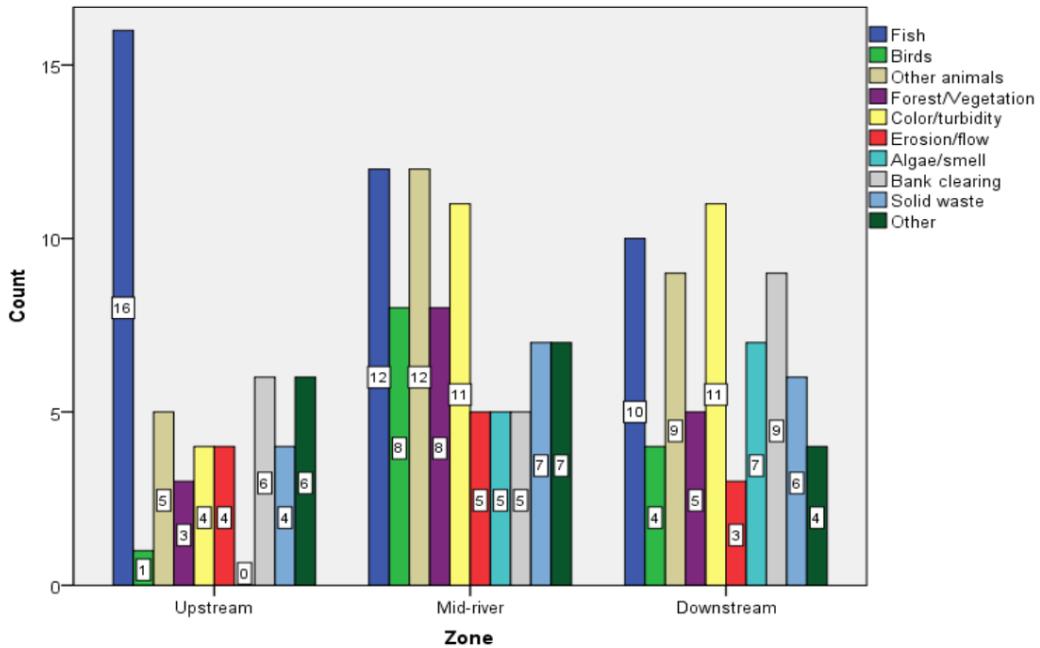


Figure 4. Perceived changes to New River by zone.

year. A twenty-nine-year-old man from Caledonia said: “When the bad waters (“aguas malas”) come, that’s a bad smell ... you can smell it. It’s very strong.” A thirty-eight-year-old man from San Jose Palmar said they are constantly smelling the bad odor and he thinks it could be “affecting people’s lungs.” A forty-seven-year-old woman from Orange Walk said “I don’t go (to the river) ... but others yes. Maybe they can catch diarrhea and fever because of the (septic) stench” while living close to the river.

Changes in fish populations. Ninety percent of respondents reported changes to “fish populations” in the river. Fish populations were perceived to be declining and being overtaken by tilapia since Hurricane Mitch (1998). Also, participants perceived more dead or dying fish, primarily in the mid-river and

downstream zones, related to eutrophication. The word “dying” was stated fifteen times in the context of river fish.

Fish populations were perceived as “declining,” “used to be numerous,” “fewer,” “scarce,” or “finishing.” A forty-three-year-old man stated there are “much lower numbers of fishes this year. (It) decreases more every year.” A fifty-year-old woman from Orange Walk Town said: “At one time, there used to fish on this river ... there’s not fish. No fish. Right now, I think even the little sardines you cannot see.” A fifty-three-year-old man from San Carlos said there are “more tilapia in the lagoon” as a result of Hurricane Mitch flooding: “That brought tilapia from Crooked Tree, [and tilapia] feed on the juveniles of boconas (large-mouth bass).” A thirty-year-old man from Guinea Grass said the new fish species “banderuda”

came after the time of the hurricane and “chiwa” also moved into in the river. An eighty-two-year-old man in San Carlos village said tilapia “are taking over the river” and the native fish populations.

Changes in wildlife abundance and behavior. Several participants stated there is less wildlife overall, except for crocodiles. They perceived that there are fewer turtles; one participant explained this was due to people using more fishing nets. Terrestrial animals such as birds, peccary, monkeys, squirrels, deer, gibbon, armadillo, and iguana were also perceived to have declined; these declines were primarily perceived to be related to the dying off or clearing of riparian forests and vegetation (food sources and habitat for wildlife). A fifty-six-year-old man from Trial Farm said he does not see as many birds as before: “They used to sing a lot. It is as if they have gone somewhere else.” Manatees were also perceived to have reduced in number. A sixty-six-year-old man from Caledonia said deer and gibbon were once hunted very close to the riverbank, but they are now scarce. A thirty-eight-year man from San Jose Palmar said a lot of wildlife “has left,” he thinks due to river pollution. Participants perceived an increase in crocodile abundance and a change in behavior. A twenty-nine-year-old man from Caledonia perceived that due to the wetlands and lagoons drying due to drought, crocodiles have “moved to river.” A fifty-year-old woman from Orange Walk Town said: “the crocodile are getting sick” (from pollution), “getting more aggressive,” and coming “toward the people because they are hungry.”

Anthropogenic (Human-Caused) Changes to the New River

Anthropogenic (human-caused) changes to the New River were perceived by all participants interviewed for this study. For the purposes of this study, anthropogenic changes can be from human action or inaction. Participants of this study perceived eight major themes of anthropogenic changes to the New River: 1) industrial pollution, 2) BSI, 3) agriculture chemical pollution, 4) solid waste pollution, 5) overfishing by residents, 6) riparian forest clearing by residents, 7) riverbank erosion by industry and tour operators, and 8) ineffective governance and management (i.e., non-regulation or non-enforcement of pollution laws). Several participants connected the increase of chemical pollution with impacts of eutrophication.

Fifty-two percent of all participants interviewed for this study identified “industry” as the main cause of changes to the New River. Three themes were statistically significant (Figure 5) between the three study zones. In the mid-river and downstream zones of the study, participants made specific reference to BSI at Tower Hill. In the upstream zone, the main perceived human-caused changes were from overfishing and increased boat traffic (Chi square = 16.701, $p = 0.005$) and overfishing (Chi square = 13.600, $p = 0.001$).

Industrial pollution. Most participants in the study stated pollution of the New River was primarily caused by chemicals and oils from the industry or industries. Perceived signs of industrial pollution

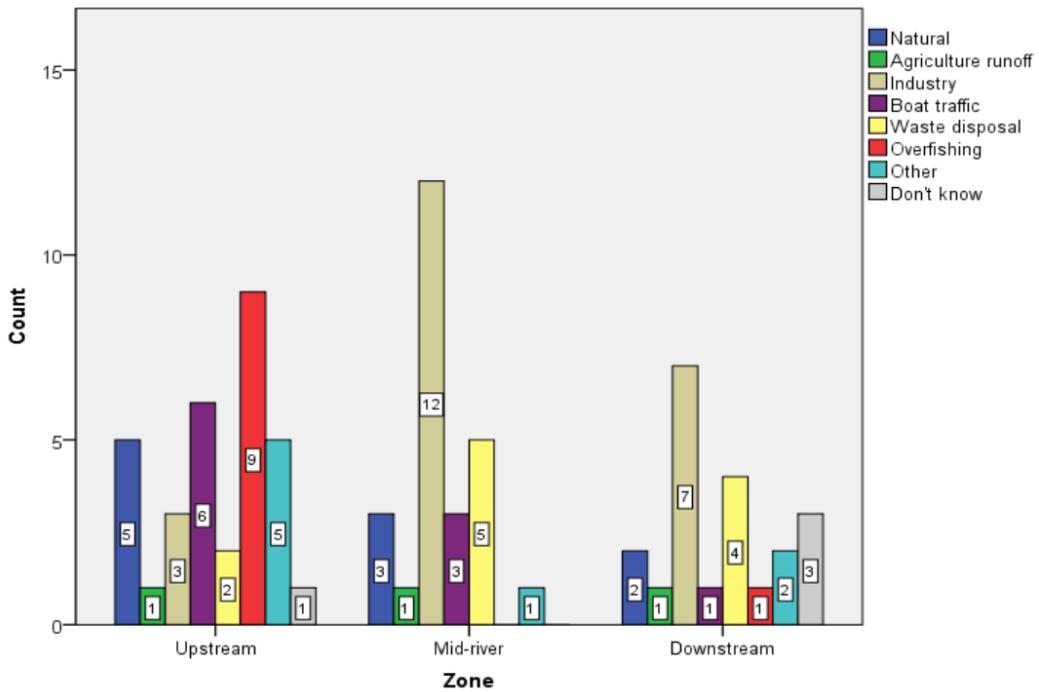


Figure 5. Perceived Causes of River Changes to the New River, per zone.

were consistent with typical signs of eutrophication, including algae growth, a “milky-film” or scum on the river surface, a smell or stench (described as sulfur-like), dead fish, and other descriptions of what some participants called “aguas malas.” Words used to describe this phenomenon were: “dirty,” “smelly,” “a stench,” “darker,” “greening,” “yellow,” “blackened,” “milky,” “scum,” “a film,” “a foam,” “ruined,” and “hot.” A fifty-one-year-old man from Tower Hill said there is an increase in algae and a bad smell from the factory dumping. A fifty-year-old woman from Orange Walk Town said she avoids going to the river because she gets “too much headache. This morning I went early, before 7, and it was milky white ... I could see from the bend as far as my eye can see, it was like that.” Industrial chemical pollution was perceived to be linked to acute or

accumulated environmental health impacts (See “Socio-ecological Impacts”).

Particularly in the mid-river and downstream zones, chemical pollution was perceived to be caused (in part or in full) by “industry,” “factory,” “chemicals,” “BSI,” and/or “oil from barges” used by the industry. BSI, a rum factory, a paper factory, three tortilla factories, and a sawmill exist in Orange Walk (mid-river zone of this study). A fifty-year-old woman from Orange Walk said from about fifteen years ago, “We started to notice a difference [due to] the pollution [in the water] ... even the plants in the river, they have like a dark, smelly stuff on the plants on the bottom; if you pull it up, like the water lilies, if you pull it up, there’s a stench that you get from them. Rotten-y.” Although most participants identified BSI, other

factories also were perceived to contribute to pollution. A sixty-six-year-old man from Caledonia said the rum factory has chemical runoff into the river. A forty-year-old woman from San Estevan said every year there is a poison and a smell “but (we) don’t know who (caused it).”

Belize Sugar Industry (BSI). BSI was particularly perceived as a cause of chemical pollution in the New River. From interview data collected from forty-two residents, “BSI” was stated thirty-one times and “the factory” forty times in the context of industrial pollution and discharge. The word “chemicals” was stated in the context of chemical pollution from BSI or the factory (as opposed to agricultural chemicals). The word “poison(ed)” was stated twenty times; the word “contaminated” or “contamination” was stated seven times. A few participants, however, did not specify the source or origin of the chemical pollution.

The phenomenon of industrial pollution was not perceived to occur in the upstream zone of the study (i.e., San Carlos to Shipyard). A sixty-nine-year-old man in Guinea Grass said the New River from “Orange Walk to Lamanai [upstream], the water is perfect. It is clear and beautiful. It is fine to drink even now. But now, from where the industry is [between Tower Hill and Orange Walk] up to more north [downstream], the water is not good water.” A sixty-nine-year-old man from San Estevan and a forty-seven-year-old woman from Tower Hill both stated before BSI, “the river was beautiful.” A

fifty-six-year-old man from Trial Farm and a seventy-four-year-old man from Orange Walk perceived that the industry “pollutes and ruins the water” and that the river is “ruined ever since the factory opened.”

BSI tank-washing and thermal discharge were perceived as causes of river pollution. A fifty-one-year-old man from Tower Hill said: “When BSI factory is washed, it releases a stink substance or sweet substance that kills the fish.” A thirty-four-year-old woman from San Jose Palmar said the tank washing effects fish: “When the BSI cleans out [later described as once a year], they do a chemical, and that’s what you see: The fishes dying and floating in the water.” A forty-seven-year-old woman from Tower Hill village said: “Right now the cane has finish ... they wash everything ... and everything goes flow in the river ... [and] the fish gone; you don’t see fish.” A fifty-two-year-old woman (and her husband) from Caledonia said whatever chemical is being disposed of, it “has to be a lot” to impact the river this much:

Right now—supposedly like this time of year—(is) when the industry throws chemicals into the water. There is bad water that comes. When it comes like that, there are dead fish. It has to be bad water ... the company says that they don’t know where it’s coming from ... I think it’s from the industry. Yes, yes. It has to be.

A thirty-six-year-old man from Libertad said: “I’m not really sure [but] I

think the problem is when they('re) working in the factory, sometimes they make a mistake and the bucket of oil throw [sic] in the river. It starts affecting the water ... it's just an accident, probably."

A BSI thermal discharge site upstream from Orange Walk town was identified by participants of this study as causing changes to the river. A fifty-year-old woman from Orange Walk said: "It's something in the water. I've taken pictures. The water gets very hot because of the waste that comes. I guess everybody says it's from the BSI factory. Because, around that areas (it) is worse." A thirty-four-year-old man from San Jose Palmar said: "When the water is hot, it has a funny smell ... you can know it's from the factory. It smells like the factory."

Agriculture chemical pollution. Although stated by only a few participants, agricultural chemical runoff was perceived to cause changes to the New River. In this study, the word "pesticides" was stated eleven times. Cane farmers who use pesticides and other agrochemicals were perceived to use (or overuse) agriculture chemicals. An eighty-two-year-old man from San Carlos said there is an increased use of pesticides; in the past, one liter of "veneno" (poison) was enough for cultivating tomatoes and now, he has to use more pesticide. He added the "thrip" insect (from Honduras) is attacking their plants and they have to use more pesticide, which is costly, and rotate use weekly because pests adapt to pesticides. A sixty-six-year-old man from Caledonia said "la maleza," a type

of grass or weed, is difficult to kill with pesticides; he later said a lot of pesticides that are used end up in the river. A fifty-year-old woman from Orange Walk Town said: "The cane farmers use a lot of chemicals and pesticides. (It is in) what we eat." There were other participants who disagreed, stating farmers were not contributing to the pollution.

Solid waste pollution. Solid waste pollution (i.e., cans, bottles, plastic) and improper storm draining systems were perceived as sources of New River pollution. Solid waste was described as "garbage," "trash," "waste," "plastic" and/or "(styro)foam"; some stated that some people are careless, use the river as a "dumping area" and for waste disposal. A seventy-four-year-old man from Orange Walk said: "Everybody throws waste not only in the river and riverbanks, but also on the roadsides." A twenty-two-year-old woman from Libertad said: "People throw garbage during the celebrations especially—and the wind blows it into the river Some people no care; people just do what they want." A thirty-three-year-old woman from Trial Farm said people do not understand the importance of waste management: "Even one time, an official came to take photos of people throwing waste—but she refused because that (enforcing laws) could get her into trouble." A few participants disagreed, stating that community members do not pollute the river: They "keep it clean," primarily for tourism.

An improper stormwater drainage system in Orange Walk town was perceived as a solid waste pollution problem. The current system, managed

by the municipality, was described as allowing garbage to flow directly to the New River. A fifty-six-year-old man from Trial Farm said: “There is a lot solid waste on the streets and the river ... and town garbage exits the drain into the river.” A fifty-year-old woman from Orange Walk said: “We have a lot of problem with [garbage]. Our worker has to keep constantly cleaning this side (i.e., the storm drainage).”

Overfishing by residents. Participants perceived residents were overfishing, including setting and using fishing nets. A sixty-year-old man from Indian Church said the river has changed due to overfishing. A few participants perceived Mennonite practices of overfishing were harming the river. A sixty-nine-year-old man from Guinea Grass village explained Mennonites [presumably from Shipyard, upstream] use a lot of nets so the fish “don’t come like before.” A sixty-six-year-old man from Caledonia said people catch fish during the mating season, which is a problem for future fish stocks; he has reported the problem to a natural resources management department, but he perceived that “no one cares.”

Riparian forest clearing by residents. Riparian forest clearing was perceived by participants to cause changes to the New River. A forty-seven-year-old woman from Orange Walk said: “People cut down a lot of forest. I guess that’s why things are happening now ... flooding.” A fifty-two-year-old woman from Caledonia said there is less vegetation on the riverbanks because people cut down trees and burn, but do not re-

plant. Primarily in the upstream zone, forest clearing to the riverbank was perceived to be due to Mennonite (Shipyard) activities; in the mid-river and downstream zones, forest clearing was attributed to sugar cane farming (also in SACD 2017).

Riverbank erosion by industry and tour operators. Riverbank erosion from industry barges and large, fast-moving tour boats was perceived by participants. A fifty-one-year-old man from Tower Hill said: “The banks are wider because of ... boats passing causing some trees to fall.” A thirty-eight-year-old man from San Jose Palmar said the larger tour boats damage the riverbed throughout the river. A sixty-nine-year-old man in Guinea Grass said the river “has deteriorated a lot ... The boats that come have big motors that rip the bed of the river, where the fish are raised.”

Ineffective management and governance. Participants perceived the local and national governments to be ineffective at informing, including, and responding to the public (i.e., with reported problems). Many perceived a lack of protection for the New River from pollution, both past and present. A forty-seven-year-old woman from Orange Walk said: “Government is not doing anything to help the situation”; she said if the government “would get strict in their laws, that (pollution) won’t be happening.” She added the government should: “Teach people that the river is very important (and) ... if that would be destroyed, we wouldn’t have anything else” and “the community relies (on the river) ... that’s all that we have, right?”

The river.” A seventy-seven-year-old woman from Libertad said she believes that the impacts from the factories have damaged the river since 1984, but that politicians have failed to protect the environment. A sixty-five-year-old man from San Estevan said there are chemicals released by the factory and there is no government nor department that has done anything about it: “All they do is a comedy.” A fifty-year-old woman from Orange Walk said:

A lot of people have tried (to help); they put it on the news ... the Environment Department comes and asks lot of questions and [they say] they are going to do something ... and nothing is done. And nothing will be done! Because who will remove the factory from there? No one. And they won't divert their waste to another place because it will be costly for them. And, you know ... the government, I guess, is on their side because the money is on that side.

At a local government level, a forty-nine-year-old woman from Caledonia said: “There is much that can be done but the local Village Council does not have motivation to do anything.”

Socio-Ecological System Impacts from Anthropogenic Pollution to the New River

There were several SES impacts from anthropogenic pollution to the New River perceived by all participants interviewed for this study. For the pur-

poses of this study, SES impacts are multi-perspectival linkages perceived of a common lived experience: anthropogenic (human-caused) pollution to the New River. Four major themes of SES impacts to anthropogenic pollution are highlighted in this section, including 1) health impacts, 2) environmental impacts, 3) economic and livelihood impacts, and 4) cultural impacts. Industrial chemical pollution was perceived to have more acute or accumulated human health and environmental impacts; solid waste pollution, however, was perceived to be more of an eye sore or annoyance. Thirty-six percent of participants perceived health impacts from anthropogenic changes to the New River and 55 percent perceived economic impacts; these were perceived more in the mid-river and downstream zones of this study.

Health impacts. This theme refers to the perceived impacts from anthropogenic pollution on human health and safety, including a widely perceived skin rash, itchiness, and other health impacts. Although not quantitatively significant, there were important differences to perceived health impacts between zones; in the mid-river and downstream zones, 54 percent and 42 percent, respectively, stated health impacts from changes to the New River, whereas in upstream communities, only 18 percent perceived this impact. The word “rash(es)” was stated twenty-four times, “smell” was stated forty-seven times, “stench” was stated nineteen times, and headache was stated six times. Many participants used descriptive words such as “headache,” “itch” (on skin), “sick,” “cough,”

and “contaminated” during their interviews.

Skin rash and itch. In all communities, except San Carlos and Indian Church, participants stated they, or someone they know, had an itch or rash after swimming or bathing in the New River. Most participants from Guinea Grass downstream connected this to the factory (versus agrochemical runoff). A seventy-four-year-old man from Orange Walk town said he once used the river for recreational swimming in the past, but there is no swimming now due to the factory releases. A sixty-nine-year-old man in Guinea Grass village (which is upstream from Orange Walk and the factories) said the river is “too contaminated due to the industry chemicals” and “when the tide comes [upstream from Orange Walk], everything from the industry comes over here, and many times it’s not good to swim.” A thirty-four-year-old woman from San Jose Palmar said she would not swim in the water right now because the: “Water is not good; it’s got like poison chemical. It would give you rash.” A sixty-nine-year-old man in Guinea Grass village said: “I don’t go to swim but there are those that do and sometimes they get a ‘comezon’ (itch).” A forty-eight-year-old woman from Shipyard said the river causes a skin rash or “picazón” after swimming, but it “goes away after three days.” A forty-seven-year-old woman from Tower Hill village said they do not swim in the river anymore “because a couple of years, my daughter wanted to go to bathe and she got like an itchness ... my nephew, them-the kids, they got rash. I told them it’s the water ... they

had to go to private doctor ... it’s the water. It’s the water.”

Other health impacts. Other perceived health impacts from anthropogenic pollution were related to consumption of fish, headaches, cough, swollen eyes, respiratory problems, allergies, and cancer. A sixty-three-year-old man from Orange Walk said that if the water is contaminated, then the fish are also “not good” to consume. A sixty-five-year-old man from San Estevan said he does not want to buy fish because he is afraid of eating it and getting sick. A thirty-three-year-old woman from Trial Farm said a Department of Health official advised her not to use the water for bathing or to eat the fish; she said they had stopped fishing due to the dead fish they were seeing in the river. A fifty-seven-year-old woman from Orange Walk said she has to give her child cough syrup and headache pills. A thirty-three-year-old woman from Trial Farm said people’s eyes are swollen and reddish in color. A fifty-five-year-old woman from San Estevan said she has heard of some children with respiratory problems [allergies]. A fifty-year-old woman from Orange Walk said that missionary doctors and nurses have said “Orange Walk is a small place. And, there’s a lot cancer cases here. A lot I don’t know if it has something to do with [BSI factory chemicals] or maybe other things (i.e., farm chemicals).” Also, she said her employee “gets a sore throat. It’s raspy ... he usually gets it only when he’s around the river ... an allergy or something.”

Environmental impacts. Most participants in this study perceived impacts

from anthropogenic pollution on the environment, especially fish and wildlife. A twenty-nine-year-old man from Caledonia described the surface film as appearing oily: "It shines like oil" and impacts the fish. Several participants linked pollution impact, specifically dying fish, with the annual "aguas malas" (bad water) caused by the factory, typically when the sugar cane season ends. Several participants described fish floating or dying at the river surface. A fifty-seven-year-old woman from Orange walk said: "Fish die off due to pollution, every year in June or July." Some participants stated there are fish kills due to "poisons in the water" and "when the factory releases poisons." A fifty-year-old woman from Orange Walk said the fish started disappearing about "15 years ago You can see the fish popping up in the side, you know they are grasping like they want to grasp for air." A sixty-nine-year-old man from San Estevan said you can't fish anymore because "the river is contaminated," "there's nothing" (no fish in it), and "right now we don't buy fish."

Economic and livelihood impacts. There were perceived impacts from anthropogenic pollution on the economy and livelihoods of New River communities. Participants in all study communities perceived an economic impact, including a) lower fish income, b).higher fishing expenses, and c) decreased tourism, primarily due to the sulfur stench of the river. Local fish were perceived as too small and/or scarce to sell. A twenty-nine-year-old man from Caledonia said there are "fewer fish each time" and before they used to sell a

lot of fish, but now there are just a few. A sixty-six-year-old man from Caledonia said he and his son would go fishing and he would make his money that way, but now "there's no fish." Due to the drop in fish abundance, participants perceived that fish were more expensive to purchase; also, fishing expenses (e.g., fuel to travel farther upstream to fish) were perceived as higher. A sixty-three-year-old man from Orange Walk stated fish are more expensive because they are now brought in from Crooked Tree. A seventy-nine-year-old woman from Orange Walk Town stated: "The fish are (expensive), 6 dollar a pound, 7 dollar a pound." A sixty-six-year-old man from Caledonia said: "Now you need to go far and spend 2 to 3 hours to catch fish," whereas before, he could throw his line in and catch cabezona and pinta.

Tourism was perceived to be impacted by anthropogenic pollution. A thirty-eight-year-old man from San Jose Palmar said: "Tourists don't travel as much on the river because of the stench of the pollution." A forty-seven-year-old woman from Tower Hill said: "The smell and the water look ... dirty, and imagine they come to see something beautiful (and they see this)." A fifty-seven-year-old shop owner from Orange Walk said she loses local customers due to the bad smell in the area: "People no longer come to drink their coke and stay a while because of the smell."

Cultural impacts and disconnection from the river. There were perceived impacts from anthropogenic pollution on cultural or traditional uses of New

River communities, particularly fishing and recreational use. A thirty-eight-year-old man from San Jose Palmar said many people made a living from fishing and hunting, but it stopped due to pollution in the river. A forty-seven-year-old woman from Tower Hill said they used to go fishing, swimming near the toll bridge, and washing clothes in the river. A sixty-three-year-old man from Orange Walk said the last time he went to swim (near the toll bridge), his skin felt slimy and he had to go wash it off; he said: "The river seems to be useful only for the barges." A forty-year-old woman from San Estevan said she learned to swim on this river and that "young people don't swim (because it's) too dirty."

Discussion and Implications

Multiple complex and cumulative SES impacts from river changes were found in this study, including ecological changes to the condition of the New River (including drought); anthropogenic (human-caused) changes to the New River (e.g., pollution, resource overuse, and ineffective management); and SES impacts from anthropogenic pollution to the New River, including impacts to health, livelihoods, environment, and culture. These results were further synthesized using selective coding, a simultaneous process of coding and analysis of data, each informing the other, where categories are related or conceptually linked in a systematic, multi-perspectival, and holistic way (Strauss and Corbin 1994). The intersections of these linkages are reference points to examine

common phenomena, build an overall description, and inform targets for recommended practices (LeCompte 2000). The study finds there are social justice implications from these perceived impacts on the New River communities, including 1) uncertainty and powerlessness (from a lack of awareness and trust) and 2) future resource insecurity. The complex and cumulative SES impacts of changes to the New River necessitate government and stakeholder leadership to find system solutions.

Uncertainty and Powerlessness

Participants interviewed perceived uncertainty and powerlessness regarding impacts from pollution from a) a lack of awareness and trust of industry (BSI) and government (i.e., on pollution impacts, ability to manage problems, protect the river and communities) and b) a lack of trust in community members to care for common resources. Participants perceived solutions were needed: the river "is just going from us and we can't do anything about it."

Lack of awareness and trust of industry and government. Overall, there were low levels of public awareness or knowledge of the impact of New River pollution. Sixty-nine percent of participants stated they did not perceive public education nor awareness of the New River's condition; their source of information was from news programs as opposed to information from the government or schools, for example. Overall, 67 percent of participants stated they were unaware of non-government organizations (NGOs) or other groups working to protect the river.

Participants perceived a lack of trust regarding the pollution problem and solutions from industry (e.g., BSI) and government to inform and protect the river and communities. Participants perceived ineffective government management. They recognized that the local economy is dependent upon BSI operation; thus, they stated, no one “stands up” to them. Others stated, “the government is on their (BSI) side” and wondered why the industries are not “being held by law to not pollute” the river. Others stated the pollution problem “could get worse if the government doesn’t do anything.”

Lack of trust in community members.

Participants perceived a lack of trust in community members to care for the river as a common resource. Many participants described overuse of resources with descriptions such as “polluting,” “overfishing,” and “taking what they want.” Mennonite residents from Shipyard were perceived to overfish, set fishing nets, and clear riparian vegetation to the river edge. Participants described some community members as careless, using “the river for waste disposal” and throwing garbage on shore or directly into the river.

Future Resource Insecurity

All participants (except one) perceived an uncertain, conditional, or negative future for the New River. Forty-five percent of all participants perceived that the river’s condition will get worse (77 percent in the mid-river, urban zone); 17 percent stated the river will—or hoped it would—remain the same. Participants

who stated a negative future said there will be “less or no fish,” the river will become “lower” (shallower), become more polluted, have a worse stench, be more cleared of riparian forests, have no wildlife, have less tourism, and have no swimming. Some stated “every day it gets worse,” that it will not be usable, and that it will be “abandoned.” One participant compared the New River to the Ohio river in the 1960s: “Because of the factories, the [Ohio] river ended up a ditch of [polluted] mud. And they said it was a beautiful river.”

Participants also stated that the future condition of the river was conditional or dependent upon several factors. Thirty-six percent stated the New River’s future was dependent on community and/or government action (i.e., whether people act soon to make improvements). Some participants stated that the future of the river depends on industry and government starting to care (about pollution levels and impacts), government making and enforcing stricter pollution laws, and their fellow community members taking care of common resources. One participant stated: “If [we] start taking care of the river and stop dumping, stop poisoning it, maybe it can be better.”

Conclusion

Communities are interdependent with the health of their rivers and watersheds—a *part of* the SES and *not apart from* it (Berkes and Folke 1998). Changes to the New River in northern Belize in recent decades, including an annual eutrophication event

near the river's primary urban setting, have multiple SES impacts on New River communities. This study finds five categories of SES impacts from anthropogenic pollution on residents; exacerbated by drought conditions, river pollution impacts human health, livelihoods, environment, culture, and social justice (i.e., powerlessness, lack of trust, resource insecurity). Comparing zones in the study, the research found statistical significance in changes to fish and wildlife, algal blooms, turbidity, sulfur-like stench, industrial pollution, and over-use (overfishing). Pollution and other river changes were perceived to originate from a variety of sources, including industrial drainage (primarily), solid waste disposal, chemical pollution from agriculture, and resource overuse (e.g., overfishing). Participants in this study perceived less overall use of the river, more impacts from pollution, and an uncertain or negative future of the New River such that there is a risk of further human disconnection, ecological decline, and eventual abandonment. As such, this complex SES problem necessitates systems solutions. Thus, it is important for government leadership and industry, agriculture, and community stakeholders to enable solutions to safeguard the New River and its communities.

Recommendations

There are several recommendations for future research and practices regarding anthropogenic pollution and management of this and other rivers in Belize (Drexler

and Castillo 2020). Many involve government leadership and prioritization of responsible use and solution-finding, including community participation by enabling and empowering local stakeholders (i.e., residents, business owners) as effective conduits for governance and management of the New River. Based on the findings of this study, the following recommendations could improve resource sustainability and security for the New River and its communities:

1. **Government of Belize (GOB) Department of Environment (DOE):** Develop a comprehensive New River Watershed Management Plan and Remediation Strategy to a) address the New River as a SES; b) examine anthropogenic changes and impacts, riparian forest management, agriculture, industry, and urban wastewater runoff impacts; c) develop mitigation and remediation strategies to include government, industry, agriculture, and urban planning; and d) facilitate community-based participatory action and identify community strengths (i.e., capital or assets), which foster sustainable and resilient communities by bringing more economic security, a healthier ecosystem, social inclusion, and a collective well-being (Flora, Flora and Gasteyer 2016).
2. **Belize DOE:** Work with local communities and NGOs to conduct comprehensive and comparative baseline studies of flora, fauna, water quality, and other indicators important for remediation strategies; employ a long-term study using

Geographic Information Systems; include cause-impact analyses that involve direct and indirect system impacts, spatial (wide-ranging) and temporal (long-term) and accumulated impacts factors (i.e., compounding impacts from Hurricane Mitch, increased tourism impact) to determine retrievable and irretrievable loss of the New River watershed.

3. **Belize DOE.** A) Develop new and/or more effective pollution regulations, laws, and enforcement for point source and non-point source pollution and mitigation. Utilize published recommendations from international and Caribbean water quality agencies regarding watershed pollution regulation, management, and remediation. B) Identify point source and non-point source pollution sources that contribute to New River eutrophication. Point source pollution (i.e., a discharge pipe) may be easier to target for mitigation compared to non-point sources, such as widespread agriculture chemical runoff.
4. **Belize DOE and New River Communities:** Include communities, local leaders, youth, business owners, and other stakeholders as partners in a participatory problem-solving process, working within social and cultural traditions (Drexler 2019). Promote community-based action initiatives, especially during the first five years of pollution remediation.
5. **BSI:** In a study on cleaner production opportunities for BSI (Chicas 2008), adopt Cleaner Production (CP) recommendations for BSI (and other) industrial operations.
6. **Department of Agriculture/Extension.** Develop a strategy for reducing agriculture chemical use and disposal in rivers, in coordination with the Pesticides Control Board and other agriculture entities in Belize. Extension can empower and encourage organizing of farmers to distribute and support adaptive, sustainable, food secure, and climate-smart farming strategies.
7. **Municipal and Village Governments.** Develop a strategy for improving sanitation services in urban and rural locations in Belize, in coordination with town councils using recommendations described in Grau et al. (2013).
8. **Department of Health, Ministry of Education, and New River Community Leaders.** Develop community-level pollution education and intervention programs; these can employ multiple behavior change models that target people at all educational levels. Adapt models that address environmental issues to include the “Environmental Citizenship Model,” the “Model of Human Interaction with the Environment,” and the “Value-Belief-Norm Theory of Environmentalism” (Akintunde 2017). Interventions must also use planning models, be multifaceted, and designed for goodness of fit for the New River context.

9. **FNR, Businesses, and Local NGOs.** Promote and monitor wise use and stewardship for New River resources. Natural resources (i.e., rivers, forests) are considered common resources, but used with “little consideration of the needs of others or of its sustainability”; more focus is needed on the “level of responsibility for its protection” (Frutos 2003, 4).
10. **Belize DOE and NGO Partner.** Establish a formal GOB-NGO partnership, i.e., with FNR, to manage improvement projects for the New River, coordinate research, collaborate with government and non-government entities (i.e., health, education, natural resources, agriculture), and implement educational campaigns within communities (Litschauer et al. 2018; Parkes et al. 2010). A locally-based NGO with a co-management agreement with the GOB will strengthen the DOE’s ability to effectively manage the New River.

Limitations of the Study

The timing of the study, during a noticeable river pollution event, was a limiting factor for this study, as the timing likely impact-

ed participant responses. Two weeks prior to and during the study, the New River started experiencing a eutrophication event (i.e., a strong sulfur-like odor, surface film). Many participants were primed and eager to express perceived pollution changes, impacts of it, and blame for the polluted condition of the New River, particularly those in mid-river and downstream zones of the study. Specifically, many participants in the study blamed the sugar factory (BSI) for the river’s polluted condition. Also, there was a sense of frustration with the lack of public information about the pollution and its impacts.

Eutrophication is nutrient and sediment overload caused by multiple sources: Agriculture, such as chemical fertilizers, manure, and aquaculture; industry, such as nutrients, oils, and chemicals discharges; and urban pollution, such as storm water runoff, septic tank leaching, and fossil fuel burning (Chislock et al. 2013; ENI 206; WRI 2019). In this study, however, participants perceived one primary cause: the sugar factory. Few participants perceived agricultural and urban discharges as contributing factors. Therefore, due to the omission of these and other factors in most interviews, the results of this study do not provide a complete picture of cause-impact linkages of anthropogenic pollution.

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International NGOs Targeted by Terror: The Impact of Religiosity on Independence, Neutrality, and Impartiality

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ABSTRACT

The literature recognizes faith-based organizations as distinct humanitarian actors. Attempts to explore how these organizations differ from their secular counterparts produce few empirical results. This study focuses on international non-governmental organizations (INGOs) attacked by terrorists to assess whether faith-based organizations differ from secular organizations across two issues: 1) commitment to the humanitarian principles of neutrality, independence, and impartiality and 2) commitment to advocacy and global engagement. Religiosity, neutrality, independence, impartiality, advocacy, and global engagement are operationalized using the social media presence of organizations attacked by terrorists between September 12, 2001 and December 31, 2018 as specified in the Global Terrorism Database. The faith of international NGOs is coded at the ordinal level using the categories of secular, faith-inspired, and faith-based to capture increasing degrees of religiosity. Ordinal logistic regression reveals that as the religiosity of organizations increases, commitment to independence and neutrality decreases. No relationship is observed between religiosity and commitment to impartiality, suggesting that religious victim-organizations are equally committed to this humanitarian principle. Religiosity and global engagement are not significantly related. However, faith impacts advocacy efforts with increasing levels of religiosity associated with decreasing levels of policy advocacy. This study concludes that religious organizations are distinct actors whose faith may complicate commitment to core humanitarian principles.

Keywords: international non-governmental organization (INGO), religiosity, neutrality, independence, impartiality, advocacy, faith-based

El impacto de la religiosidad entre las ONG internacionales atacadas por el terrorismo

RESUMEN

La literatura reconoce a las organizaciones religiosas como actores humanitarios distintos. Los intentos de explorar en qué se diferencian estas organizaciones de sus contrapartes seculares producen pocos resultados empíricos. Este estudio se centra en las ONG internacionales atacadas por terroristas para evaluar si las organizaciones religiosas difieren de las organizaciones seculares en dos aspectos: 1) compromiso con los principios humanitarios de neutralidad, independencia e imparcialidad y 2) compromiso con la promoción y el alcance del compromiso global. La religiosidad, la neutralidad, la independencia, la imparcialidad, la promoción y el compromiso global se ponen en práctica utilizando la presencia en las redes sociales de organizaciones atacadas por terroristas entre el 12 de septiembre de 2001 y el 31 de diciembre de 2018, según se especifica en la Base de datos mundial sobre terrorismo. La fe de las ONG internacionales se codifica a nivel ordinal utilizando las categorías secular, inspirada en la fe y basada en la fe para captar grados crecientes de religiosidad. La regresión logística ordinal revela que a medida que aumenta la religiosidad de las organizaciones, disminuye el compromiso con la independencia y la neutralidad. No se observa ninguna relación entre la religiosidad y el compromiso con la imparcialidad, lo que sugiere que las organizaciones religiosas de víctimas están igualmente comprometidas con este principio humanitario. La religiosidad y el compromiso global no están relacionados de manera significativa. Sin embargo, la fe impacta los esfuerzos de promoción con niveles crecientes de religiosidad asociados con niveles decrecientes de promoción de políticas. Este estudio concluye que las organizaciones religiosas son actores distintos cuya fe puede complicar el compromiso con los principios humanitarios fundamentales.

Palabras clave: organización internacional no gubernamental, religiosidad, neutralidad, independencia, imparcialidad, promoción, religión

宗教性在遭受恐怖主义威胁的国际 非政府组织中产生的影响

摘要

现有文献将基于信仰的机构视为独特的人道主义行动者。为探究这些机构如何有别于世俗机构而作的尝试，所得实证结果不多。本研究聚焦于被恐怖分子袭击的国际非政府组织，以期评估基于信仰的机构是否在两大问题上有别于世俗机构：1) 对人道主义原则（中立性、独立性、公正性）的承诺；2) 对倡导的承诺和全球参与的范围。全球恐怖主义数据库记录了2001年9月12日至2018年12月31日期间遭遇恐怖分子袭击的机构，本研究通过使用这些机构在社交媒体上的出现情况，对宗教性、中立性、独立性、公正性、倡导、以及全球参与进行了操作化。通过使用三种机构分类（世俗、受信仰所激发、基于信仰）来表示递增的宗教性，对国际非政府组织的信仰进行了排序编码。序数逻辑回归显示，随着机构的宗教性不断增加，对独立性和中立性的承诺不断降低。未发现宗教性和对公正性的承诺之间存在关系，这暗示遭受恐怖袭击的宗教机构都平等对待公正性这一人道主义原则。宗教性与全球参与不存在显著相关性。然而，信仰会影响倡导工作，宗教性越强，政策倡导的程度则越低。研究结论认为，宗教机构是独特的行动者，它们的信仰可能会让对核心人道主义原则的承诺变得复杂。

关键词：国际非政府组织，宗教性，中立性，独立性，公正性，倡导，基于信仰

Introduction

Faith has long inspired individuals and groups to serve communities most in need. However, its involvement in relief efforts occasionally raises concern and suspicion. Allegations of proselytism, whether warranted or not, attract attention especially when religious organizations are expelled by host governments, such as occurred in Afghanistan in 2010 (Department of

State 2020a) or when criminal charges are brought against aid workers, as took place in Uzbekistan in 2005 (Department of State 2020b). Faith-based organizations (FBOs) are often labeled amateurish, which may marginalize their contribution to relief efforts (Lipsky 2011 and Bowers du Toit 2019). Finally, religious organizations radiate vulnerability when they allow, wittingly or unwittingly, terrorists and insurgents to exploit them. The US government iden-

tifies protection of the charitable sector as a critical component of its global war on terrorism. The Department of Treasury (2020) offers numerous resources to help charities in this effort to include a matrix to assess risk and a list of best practices.

Few empirical studies seek to unravel the complexities that surround religious organizations. This study assesses the relationship between the level of religiosity of international non-government organizations (INGOs) attacked by terrorists and their commitment to the humanitarian principles of neutrality, independence, and impartiality. Religiosity is operationalized into an ordinal variable to ascertain whether the degree of religiosity impacts organizational commitment to these humanitarian principles. This study offers insight into whether religious INGOs representing larger organizations or communities, such as Catholic Relief Services or the Aga Khan Development Network, differ in their commitment to the principle of independence from less aligned religious organizations and secular ones. Additionally, the paper examines whether faith organizations that pursue global justice goals commit less to neutrality to remain unencumbered to condemn egregious human rights violations. This study explores whether religious organizations differ in their commitment to impartiality from secular organizations. Some authors (see, for example, Kraft and Smith 2019) find that faith-based organizations are likely to share a culture, language, or religion with their aid recipients. In their study of aid distribution in Myanmar, Benson

and Jaquet (2014) found that recipients care about organizations' religious make-up. These authors studied a predominately Christian area where Christian aid organizations played a key role and found that recipients traveled to the closest Catholic or Baptist camp rather than the nearest aid center. If recipients increase their expectation of aid based on a shared commonality with those delivering it, the INGO may find itself under pressure to violate impartiality.

The second issue explored in this paper is the impact of religiosity on organizations' scope of activity and commitment to advocacy, specifically policy-level efforts. The advocacy literature is significant, but few studies operationalize the concept and subject it to empirical analysis. Conclusions about the effectiveness of advocacy efforts range from Hudson (2002), who identifies the conditions when advocacy is effective, to Will and Pies (2017), who highlight the harmful and unintended consequences of such efforts, to Fernández-Aballí (2016) who completely rejects the need for or usefulness of advocacy.

Faith-Based Organizations (FBOs)

International and domestic non-governmental organizations (NGOs) often perform their humanitarian mission under the most extraordinary circumstances. These organizations alleviate pain, suffering, hunger, poverty, and misery while promoting equality and justice. They put their employees at risk to help those most in need. There is no doubt that INGOs perform a

much-needed service to the world and that faith-based organizations contribute to this effort (see, for example, Ferris 2005). The literature considers faith-organizations as distinct actors. Rather than exploring FBOs' role in development, the literature tends to attack or defend their existence (Heist and Cnaan 2016). While additional studies have emerged in subsequent years exploring the issue from a theological perspective (see, for example, Hancox 2019), there still lacks empirical studies investigating the differences between faith-based and secular organizations.

Trust and Faith-Based Organizations

The literature on faith organizations is replete with claims that such organizations offer unique advantages. For example, Lipsky (2011) sees faith as a "comparative advantage" that enhances organizations' moral and ethical standing, while Guiney (2012) sees faith as creating "spiritual capital" for the organizations. Belshaw (2006) classifies the unique advantages of FBOs as "non-material," while Kraft and Smith (2019) discuss the "spiritual influence" that these organizations wield in the communities in which they operate. The advantages identified by these authors are best classified as non-tangible, making it difficult to assess their role empirically. A common theme within these articles is that the unique characteristics render FBOs more trustworthy than secular organizations (see, for example, Heist and Cnaan 2016). Butcher and Hallward (2018, 518) interviewed recipients of aid and concluded that trust emanates from a sense of know-

ing "why" FBOs engage in development work and a belief that religion rather than politics serves as the motivating factor for that engagement. However, an executive of the faith-based organization World Vision maintains that recipients of aid do not care whether it is "paid for by a church in the U.S., by a secular charity, or by the U.S. government If [the recipient] doesn't make the distinction, why should we" (Anderson 2008, 22).

Fear of Exploitation by Terrorists

That terrorists and insurgents exploit charities is well known by governments and NGOs. To protect charities and their stakeholders and donors, some governments publicly identify those with a known association to terrorism. In the United States, Executive Order 13224 authorizes the designation of global charities linked to terrorism. This list includes the Holy Land Foundation for Relief and Development, a charity that acted as a front for Hamas and led to the largest terrorist financing case in US history. The literature on designations tends to focus on the consequences of it for the non-profit sector. Atalay (2016, 394) finds that designation lists in the United States and elsewhere, including Europe, produce suspicion and distrust of Islamic charities in the non-Muslim world. In a similar vein, Othman and Ameer (2014, 106) report that governments presume Islamic NGOs are linked to terrorist organizations. While these authors are concerned about the consequences of designation, there are national and international attempts to protect charities from victimization.

As previously mentioned, the Treasury Department offers a host of resources for non-profits to protect themselves. Additionally, the United Nations partners with NGOs to counter terrorism and radicalization, as expressed in its January 2020 *Civil Society Engagement Strategy*. The inter-governmental organization Financial Action Task Force also offers guidelines for non-profits vulnerable to terrorist exploitation.

Concerns of Proselytism

Ethical issues of proselytism and evangelism usually arise when discussing faith-based organizations (see, for example, Jayasinghe 2007). Several faith-based organizations that explicitly denounce proselytization include Catholic Relief Services, Adventist Development and Relief Agency, and Aga Khan Development Network. Some religious organizations engage in evangelism to include Samaritan's Purse (2020), which states on its website, "We believe that the ministry of evangelism (sharing and proclaiming the message of salvation only possible by grace through faith in Jesus Christ) and discipleship (helping followers of Christ grow up into maturity in Christ) is a responsibility of all followers of Jesus Christ." The distinction between proselytism and evangelism is somewhat murky. It seems that proselytism requires some degree of coercion or effort to convert others to a specific belief system. This position is taken by Koehrsen and Heuser (2020, 10), who maintain that most Christian NGOs reject proselytism but will not deny someone who wishes to convert to Christianity. Ferris (2005) also distin-

guishes between evangelical groups that proselytize and those simply motivated by their Christian traditions. Nevertheless, Ferris (2005, 323–25) found that evangelical organizations operating in Indonesia spread the Gospel while disseminating aid, leading to criticism that their goal was to Christianize the country.

Another intriguing issue explored by Ferris (2005) is Muslim aid organizations' perception that any humanitarian gesture, regardless of whether the organization is faith-based, is rooted in religiosity. This perception notwithstanding, Ferris (2005) reported that the evangelical groups operating in Indonesia damaged the relationship between the Christian and Muslim organizations. Further complicating the issue is the argument that any transference of belief could constitute proselytism. Donors who restrict their funding to specific activities or programs may promote particular values intending to influence the recipient. Lynch and Schwarz (2016, 636) argue that donor restrictions serve to pass neoliberal ideas through to recipients and that this process constitutes what they call "donor proselytism."

There is little empirical evidence on FBOs' role in development from either a humanitarian or religious perspective. In their text, Koehrsen and Heuser (2020, 6) conclude that "due to the limited empirical data, the FBO impact on development processes is almost impossible to establish at this stage." Hancox (2019, 1), who focuses on Christian organizations, agrees that development has emerged as a field

within theology, but little research on these faith organizations has occurred thus far.

Neutrality, Independence, and Impartiality

Classical humanitarianism rests on the 1965 proclamation by the International Committee of the Red Cross (ICRC) that its actions are based on the principles of humanity, impartiality, neutrality, independence, voluntary service, unity, and universality. Members of the broader International Federation of Red Cross and Red Crescent Societies (IFRC) were required to adhere to these principles to ensure consistency in response efforts. In 1994, the IFRC and ICRC published the *Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*. The document lists the following ten core principles:

1. The humanitarian imperative comes first.
2. Aid is given regardless of the race, creed, or nationality of the recipients and without adverse distinction of any kind. Aid priorities are calculated on the basis of need alone.
3. Aid will not be used to further a particular political or religious standpoint.
4. We shall endeavour not to act as instruments of government foreign policy.
5. We shall respect culture and custom.

6. We shall attempt to build disaster response on local capacities.
7. Ways shall be found to involve programme beneficiaries in the management of relief aid.
8. Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic needs.
9. We hold ourselves accountable to both those we seek to assist and those from whom we accept resources.
10. In our information, publicity and advertising activities, we shall recognise disaster victims as dignified humans, not hopeless objects.

The IFRC website lists criteria to register as a signatory to the *Code of Conduct* and a signatories list. The IFRC (2020) does not monitor compliance with the *Code of Conduct* or provide any vetting of signatories other than verifying their contact information.

The literature on these core principles focuses on neutrality, frequently cited as the most controversial principle. Neutrality receives accolades for opening doors to crisis-affected populations and generates accusations that it tacitly endorses oppressive regimes. NGOs' commitment to neutrality may invoke an ethical conundrum if it remains silent while operating amid egregious human rights violations. The ICRC's refusal to condemn Nazi brutalities is often cited as the starting point for this discussion (see, for example, Gordon and Donini 2015; Rieffer-Flanagan 2009). Failure

to condemn human rights abuses may cost organizations their political courage and intelligence, as noted by Labbé and Daudin (2015, 190). Host governments, even authoritarian regimes, may benefit from the activities and programs of neutral NGOs, as it is the latter that permits the former to operate (Schenkberg 2015). INGOs that condemn atrocities of oppressive regimes may find that the cost of violating neutrality is expulsion from the country, thus depriving assistance to those in need (Gordon and Donini 2015).

Impartiality refers to the provision of aid based on proportional need without regard to factors such as race, ethnicity, or religion. Impartiality can lead to accusations that neutrality was violated by a belligerent who receives less than a perceived “fair” share of the aid. Hilhorst (2018) writes that implementing impartiality is challenging, as needs are difficult to measure. The author explains that an NGO might provide recipients with winter clothing made of higher quality material than that worn by the rest of the population. This disparity in quality may give rise to calls of unfairness. Humanitarian organizations often use proportionality to prioritize those who are most in need (Labbé and Daudin 2015, 187), but this formula does not prevent the politicization of aid distribution, as noted by Mačák (2015, 171). The range of actors operating in a crisis environment can also impact neutrality, independence, and impartiality. Military personnel, private security forces, regional organizations, and United Nations agencies may all affect an NGO’s operations and,

as Shannon (2009) mentioned, complicate NGOs’ commitment to humanitarian principles.

Advocacy and Global Engagement

The second issue this paper explores is whether religiosity explains any differences in advocacy efforts among INGOs attacked by terrorists. Though they do not distinguish between faith-based and secular organizations, Murdie and Stapley (2014, 90) conclude, based on a large-scale study, that attacks against NGOs increase as the number of NGOs engaged in human rights advocacy increases and that the threat decreases as the number of organizations declines. Scant research exists that focuses on religious organizations’ advocacy efforts, so it remains unknown how FBOs might impact this formula. Studies (Butcher and Hallward 2018; Freeman 2020) note that religious organizations massage the language and narrative of advocacy to invoke a spiritual sense of duty. Specifically, Butcher and Hallward (2018, 519) explain that religious organizations use the term socio-economic rights instead of human rights to appeal to a sense of religious obligation. For example, the Adventist Development and Relief Agency (ADRA 2020) advocates for all children to attend school and calls on supporters to recognize this goal as their “moral and Christian responsibility.”

The literature on advocacy NGOs focuses on defining advocacy and assessing its effectiveness. Keck and Sikkink (1998) recognized the role of Transnational Advocacy Networks (TANs)

in international politics and called for more research on these non-state actors. While academia answered this call with numerous studies on advocacy, few large-scale empirical works or attempts to operationalize the concept exist. Part of the reason for this state of affairs is a lack of consensus on the definition of advocacy. Will and Pies (2017, 1081) are among those authors who summarize NGOs' advocacy activities with the often-used phrase "framing, naming, shaming, or protesting." Some authors, such as Hudson (2002) and Bloodgood (2011), who represent a classical approach to the concept, focus on actors and institutions, while others, such as Jordan and Van Tuijl (2000), study advocacy's impact on power relations. International organizations define advocacy in ways that reflect these various approaches. Save the Children (2020) represents the classical approach and defines advocacy as influencing "governments, international institutions, and the private sector." On the other hand, the United Nations (2010) takes a much broader view of advocacy and devotes an entire webpage to its definition, highlighting power relations at its core.

The advocacy literature may offer insights into the advocacy efforts of faith-based organizations. Carpenter (2007) asks why some issues generate advocacy efforts while other issues do not. The author examines two issues that attract advocacy attention—child soldiers and girls in war—and one that does not—protection needs of children born of wartime rape. The author concludes that major organizations serve as gatekeepers, with minor organizations

influencing their counterparts' issue choice. Many faith-based organizations represent larger communities that are sometimes even global in nature. Some of these religious organizations may meet Carpenter's criteria for gatekeeper status. Since faith-based organizations employ different narratives and language from secular groups, an impact on future global advocacy agendas is possible. Another factor that influences advocacy agendas is the degree to which international consensus exists that an issue is important. Hudson (2002) argues that more agreement on an issue results in more significant advocacy effort. Hudson identifies the ban on landmines as an example of an issue with a high degree of consensus and corresponding high advocacy effort and arms exports as an issue with low consensus with a corresponding low degree of advocacy effort. The focus of religious-based advocacy is rooted in theology and not international opinion, as noted by Hudson, which may influence the issues on the global advocacy agenda as the number of faith organizations expands.

Several studies explore the unintended consequences of policy change as a result of advocacy effort. Will and Pies (2017) examine the food crises of 2007 and 2010 and conclude that German NGOs sought to improve food security by engaging in advocacy campaigns that, if successful, would have reduced rather than enhanced such security. During the two food crises, academics and practitioners recognized that regulation of the futures markets in the agricultural sector was a counterproductive solution to the food cri-

ses. Nevertheless, NGOs called for such strict regulation, which the authors referred to as “poor advocacy” and suggest that “faced with scientific counter-evidence, the NGOs chose to ignore or even negate these findings.” The authors conclude that NGOs fail to consider other actors’ interests when designing their advocacy campaigns, and as a result, their impact can vary significantly from their expectations. Similarly, Unerman and O’Dwyer (2006) write a theoretical piece on the potential broad ramifications of advocacy. The authors conclude that even if advocacy efforts are successful in changing policy, other consequences of that effort are unknown and may harm target populations. Faith-based and secular INGOs may react differently to unintended consequences and experience different repercussions from their supporters and stakeholders.

Methodology

The Global Terrorism Database (GTD) was used to identify terrorist incidents in which an INGO was attacked. All incidents were reviewed to determine the identity of the victim INGO. GTD events in which a specific INGO was not named and was not identified through additional research are excluded. A total of 331 incidents meet the criteria for inclusion in this research: 1) the incident is listed in the GTD, 2) the INGO was attacked between September 12, 2001 and December 31, 2018, and 3) INGO identity is known. There are ninety-two unique victim-organizations in this dataset. The

level of religiosity was coded for each of the victim-organizations and serves as the dependent variable. The five independent variables are the organizations’ public commitment to independence, neutrality, impartiality, advocacy effort, and global engagement level.

Operationalization of the Dependent Variable

Much of the literature on faith-based organizations recognizes the difficulties in defining such entities. Clarke and Ware (2015, 39) review fifty studies on faith-based organizations and find no standard definition but observe that scholars view such organizations as different though the “distinctiveness ... [was] not clear.” Koehrsen and Heuser (2020, 7-8) also identify FBOS as distinct from other humanitarian organizations in that they act as “boundary agents,” freely moving between religious and secular environments, interacting with people of various faiths, and operating across development contexts. Faith-based and secular organizations recognize that religion plays a significant role in many crisis-affected populations. Both Lipsky (2011) and Hershey (2016) conclude that differences between religious and secular organizations become fuzzy when secular organizations incorporate religious elements into their operations to enhance their relationship with aid recipients.

This study adopts Bano’s (2011) method for classifying organizations as religious. Bano sees self-identification as the only effective means to classify organizations as faith-based. Any method

Table 1. Faith-Affiliated Victim Organizations

Faith-Affiliated Victim-INGOs	Organization Type	Religious Affiliation	Frequency of Attacks
World Vision International	Faith-Based	Christianity	7
Aga Khan Development Network	Faith-Based	Islam	5
Catholic Relief Services	Faith-Based	Christianity	3
Caritas International	Faith-Based	Christianity	2
International Assistance Mission	Faith-Based	Christianity	2
Islamic Relief Organization	Faith-Based	Islam	2
Ora Kinderhilfe	Faith-Based	Christianity	2
Adventist Development and Relief Agency	Faith-Based	Christianity	1
Art of Living	Faith-Based	Spiritual	1
Bread for the World	Faith-Based	Christianity	1
Claret Samal Foundation	Faith-Based	Christianity	1
Cordaid	Faith-Based	Christianity	1
Focus Humanitarian Assistance	Faith-Based	Islam	1
Food for the Hungry	Faith-Based	Christianity	1
Gift of the Givers Foundation	Faith-Based	Islam	1
Green Helmets	Faith-Based	Inter-faith	1
Helping Hand for Relief & Development	Faith-Based	Islam	1
Interchurch Organization for Development Cooperation	Faith-Based	Christianity	1
International Aid Services	Faith-Based	Christianity	1
Minhaj ul Quran International	Faith-Based	Islam	1
Operation Mercy	Faith-Based	Christianity	1
Partner Aid International	Faith-Based	Christianity	1
Samaritan's Purse	Faith-Based	Christianity	1
Serve Afghanistan	Faith-Based	Christianity	1
Shelter for Life International	Faith-Based	Christianity	1
Trocaire	Faith-Based	Christianity	1
World Concern	Faith-Based	Christianity	1
World Relief	Faith-Based	Christianity	1
Mercy Corps	Faith-Inspired	Christianity	6
Hanns Seidel Foundation	Faith-Inspired	Christianity	1
Nonviolent Peaceforce	Faith-Inspired	Christianity	1
One Nation	Faith-Inspired	Islam	1
World Organization of the Scout Movement	Faith-Inspired	Inter-Faith	1

other than self-identification, the author argues, will result in the misclassification of many secular organizations that operate in South Asia and the Middle East. This study develops a two stage-process

to measure the degree of religiosity in international NGOs. The ninety-two victim-organizations are classified as secular, faith-inspired, or faith-based with the degree of religiosity increasing

from one category to the next.

At stage one, organizations' websites and Facebook pages were reviewed. Annual reports, mission statements, press releases, posts, charters, constitutions, and statement of values and principles were evaluated for indicators that the organization adheres to religious doctrine. Stage one produced thirty-three organizations in which a degree of religiosity was observed. Stage two determined whether the thirty-three organizations participated in a faith-based network or faith-based alliance, registered as a tax-exempt religious organization in the United States, attended a faith-based meeting for NGOs, or hosted an inter-faith event. Of the thirty-three organizations characterized as faith-affiliated in stage one, twenty-eight met the criteria established in stage two, and are therefore classified as FBOs. The remaining five organizations, classified as religious in step one but that did not meet the criteria in stage two, are classified as faith-inspired organizations (FIOs). The term faith-affiliated organizations is used in this study to represent both faith-based and faith-inspired INGOs. The remaining fifty-nine organizations are classified as secular. Table 1 lists the thirty-three unique victim-organizations classified as faith-affiliated with their religious affiliation and frequency of attack.

The dataset contains a total of 331 attacks against INGOs, with fifty-four against faith-affiliated organizations and 277 against secular organizations. Approximately one-third of attacks against both religious organiza-

tions (33 percent) and secular organizations (39 percent) occurred in Sub-Saharan Africa, suggesting that religiosity did not impact the likelihood of an attack. South Asia witnessed 56 percent of all attacks against religious organizations but only 33 percent against secular organizations. Even more noteworthy is the discrepancy that occurs within the Middle East and North Africa. Only 7 percent of attacks against religious organizations happened in this region, compared to 21 percent of attacks against secular organizations. Religiosity did not appear to be a factor in Sub-Saharan Africa, while it seemed to increase risk in South Asia and decrease it in the Middle East and North Africa. These regional differences may exist for many reasons, including terrorist opposition to specific INGO activities and programs, increased opportunity to target INGOs due to terrorist and insurgent control of territory in which the organization operates, and varying cultural beliefs and perceptions about other faiths.

Operationalization of Neutrality, Independence and Impartiality

Organizations, including INGOs, design their websites to reflect a well-crafted public persona. This virtual presence allows organizations to showcase their self-defined attributes and educate their audiences about their purpose, mission, and activities. Websites elicit donations for the organization, raise awareness about an issue, and provide transparency and accountability by making financial statements and annual reports avail-

able to the public. Organizations define their mission and explain their values on their websites. For many INGOs, this includes addressing the humanitarian principles to which they adhere. The International Federation of Red Cross and Red Crescent Societies posts the *Code of Conduct* on its website and the *Code's* signatories. The IFRC (n.d., para. 2) maintains that “adherence to the *Code* has become one important way for ... NGOs to define themselves as humanitarians.” INGOs that claim to adhere to the *Code of Conduct* on their websites may or may not comply in their operations. It is also possible that INGOs comply with the *Code* in operations but not on their websites. Hilhorst (2005) interviewed signatories to the *Code of Conduct* and reported that signatories place a high value on the *Code*. The author lists a dozen suggestions for improving the *Code*. One suggestion offered by Hilhorst is for NGOs to acknowledge their signature on the *Code of Conduct* on their websites and provide a link to the document. A review of the *Code of Conduct* Signatory page (IFRC 2020) reveals that thirty-nine victim-organizations in this study signed the document and fifty-three victim-organizations did not. The majority of both faith-affiliated (55 percent) and secular (59 percent) organizations did not sign the *Code of Conduct*.

The ninety-two victim organizations' websites were reviewed to measure commitment to the humanitarian principles of neutrality, independence, and impartiality. Organizations were classified according to their public state-

ments on each of the three humanitarian principles. It is not required that the INGO expressly commit to each principle by using specific terms. For example, it is not uncommon for an INGO to describe its impartial distribution of aid without using the word “impartial.” In fact, the *Code of Conduct* itself does not use the term impartial. An INGO may list the entire *Code* on its website such as FBO Operation Mercy (2020) or use a unique explanation such as that used by FBO Gift of the Givers (2020), which explains “assistance is provided unconditionally; assisting the needy, irrespective of human or animal, race, religion, colour, class, political affiliation of geographic location.”

Neutrality, independence, and impartiality are coded as Purposive Placement, Incidental Placement, or No Placement for each of the ninety-two victim-organizations. Placements coded as Purposive include INGOs that present the principle in its description of itself, often labeled “About us” or “Who we are,” and those that cite the principle under Mission or Mandate. Purposive Placement is also coded if the INGO lists the principle in its Annual Report, Trustee Report, Charter, Strategic Goals, Strategic Priorities, Code of Ethics, or includes a link to the *Code of Conduct* on the ICRC or IFRC websites. Incidental Placement is coded for those organizations that mention the principles in blogs, job descriptions, recruitment and training literature, FAQs, and press releases. INGO websites that contain no reference to the principles are coded as No Placement. The highest category

(Purposive) is used for those organizations that express their commitment at both the Purposive and Incidental levels.

Of the ninety-two victim-organizations, only thirty display Purposive Placement of all three principles. Of these thirty organizations, ten (33 percent) are faith-affiliated, and twenty (67 percent) are secular. However, twenty-nine organizations do not publicly commit to any of the principles. Of these twenty-nine organizations, six (18 percent) are faith-affiliated, and twenty-seven (82 percent) are secular. The remaining twenty-nine organizations commit to one or two principles with a combination of Purposive and Incidental placements.

Operationalization of Advocacy and Global Engagement

Many INGOs engage in advocacy, but the scope of their activities varies significantly. Three categories are used to measure the advocacy efforts of each of the ninety-two victim-organizations. INGOs are categorized as engaging in Policy Advocacy, Programmatic Advocacy, or No Advocacy. A humanitarian organization that seeks to empower women by mandating that its programs include women is engaged in Programmatic Advocacy. In contrast, a humanitarian organization that seeks to influence legislation to protect women's rights is engaged in Policy Advocacy. Organizations that engage in Programmatic Advocacy may still intend to influence national legislation. This bottom-up approach may lead to national change just as those that achieve national change hope for the effects to filter

down to the local level. Each INGO is classified at the highest level of advocacy observed since organizations engaged in Policy Advocacy are likely engaged in Programmatic Advocacy as well.

Advocacy efforts for the ninety-two victim-organizations were ascertained through reviews of websites, Facebook, and pertinent documents such as Annual Reports. Of the ninety-two victim-organizations, fifty-three engage in Policy Advocacy. One-third (34 percent) of these organizations are faith-affiliated, while two-thirds (64 percent) are secular. Programmatic Advocacy is the highest engagement level for thirteen victim-organizations, with seven (54 percent) classified as faith-affiliated and six (46 percent) as secular. The remaining twenty-six victim organizations do not maintain an advocacy agenda. Of these twenty-six, 8 (31 percent) are faith-affiliated, and eighteen (69 percent) are secular.

The final independent variable is the level of global engagement of the victim-organizations. INGOs vary greatly in the number of countries in which they operate, from a handful to over 100. Due to this vast range, an ordinal variable was designed to reflect low, moderate, and high global engagement. INGOs coded as Low Engagement operate in one to fifteen countries, INGOs coded as Moderate Engagement operate in sixteen to forty-nine countries, and INGOs coded as High Engagement operate in fifty or more countries. There are twenty-six INGOs with high engagement scores. Of those twenty-six, twelve (46 percent) are faith-affiliated and fourteen (54 percent) are secular.

However, one-third of all faith-affiliated INGOs, and only one-quarter of secular organizations, have high engagement scores. The more expansive engagement by faith-affiliated organizations is likely driven by the support received from the larger religious entities of which they are a part. For example, Catholic Relief Services serves as the official international humanitarian agency for the Catholic Church in the United States, with access to a vast global network of supporters and institutions.

Ordinal Logistic Regression Results

This study used ordinal logistic regression to assess the relationship between religiosity and the independent variables. The four assumptions of ordinal logistic regression are satisfied. First, the dependent variable is coded at the ordinal level, as each of its three categories reflect an increasing level of religiosity. Second, all independent variables are continuous, categorical, or ordinal. Third, multicollinearity tests were conducted. The Variance Inflation Factor (VIF) for all five independent variables is below five, Tolerance Levels are all above .20, and the Condition Indices are all below fifteen, indicating that multicollinearity is not an issue. Fourth, proportional odds tests were conducted and confirm that each independent variable has the same effect on each cumulative split of the dependent variable.

Due to the low frequency of faith-inspired organizations, there were numerous empty cells when conducting the regression analysis. The independent variables were collapsed into a binary

format to address the low cell frequency problem. Neutrality, impartiality, and independence were recoded into Commitment, by combining the Purposive and Incidental categories, and Non-Commitment. Advocacy was recoded into Policy Advocacy and Non-Policy Advocacy, with Programmatic Advocacy folded into the Non-Policy category. This binary variable still allows for a distinction between INGOs advocating at the national level and those that do not. Global Engagement was recoded as High Engagement and Non-High Engagement with Moderate Engagement was folded into the High Engagement category. This binary variable still allows for a distinction between INGOs with and those without a global presence. Even with the compression of predictor variables, the ordinal logistic regression resulted in a large number of empty cells. As a result, separate ordinal regressions were run for each of the five binary predictor variables.

Ordinal Regression Results for Religiosity and Neutrality

An ordinal logistic regression with proportional odds was run to determine the effect of religiosity of victim-organizations on public commitment to neutrality. There are proportional odds, as assessed by a likelihood ratio test comparing the fitted model to a model with varying local parameters, $X^2(1)=.714$, $p=.398$. The deviance goodness-of-fit test indicates that the model is a good fit to the observed data, $X^2(1)=.714$, $p=.398$. The model is statistically significant and predicts the dependent variable over and above the intercept-only model, $X^2(1)=11.165$, $p=.001$.

Table 2. Ordinal Regression Results for Religiosity and Neutrality

		Parameter Estimates						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Threshold	[Faith-Based]	-2.158	.194	123.716	1	.000	.116	-2.538	-1.778
	[Faith-Inspired]	-1.909	.181	110.725	1	.000	.148	-2.264	-1.553
Location	[Non-Commitment Neutrality=0]	-1.142	.327	12.152	1	.000	.319	-1.783	-.500
	[Commitment Neutrality=1]	0 ^a	.	.	0	.	1	.	.

The odds ratio of being in a higher category of the dependent variable for victim-organizations with non-commitment to neutrality is .319 (95 percent CI, -1.783 to -.500), a statistically significant effect, $X^2(1)=12.152$, $p=.000$. For victim-organizations with non-commitment to neutrality, the odds of scoring higher on religiosity are greater than for victim-organizations with a commitment to neutrality. In other words, as the religiosity of victim-organizations increases, their commitment to neutrality decreases.

Ordinal Regression Results for Religiosity and Independence

An ordinal logistic regression with proportional odds was run to determine the effect of religiosity of victim-organizations on public commitment to independence. There are proportional odds, as assessed by a likelihood ratio test comparing the fitted model to a model with varying local parameters, $X^2(1)=1.338$, $p=.247$. The deviance goodness-of-fit test indicates that the model is a good fit to the observed data, $X^2(1)=1.338$, $p=.247$. The model is statistically significant and predicts the dependent variable over and above the intercept-only model, $X^2(1)=16.219$, $p<.001$.

Table 3. Ordinal Regression Results for Religiosity and Independence

		Parameter Estimates						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Threshold	[Faith-Based]	-2.245	.202	123.958	1	.000	.106	-2.641	-1.850
	[Faith-Inspired]	-1.992	.189	111.180	1	.000	.136	-2.362	-1.622
Location	[Non-Committed Independence=0]	-1.334	.319	17.485	1	.000	.263	-1.959	-.709
	[Committed Independence=1]	0 ^a	.	.	0	.	1	.	.

The odds ratio of being in a higher category of the dependent variable for victim-organizations with non-commitment to independence is .263 (95 percent CI, -1.959 to -.709), a statistically significant effect, $X^2(1)=17.485$, $p=.000$. For victim-organizations with non-commitment to independence, the odds of scoring higher on religiosity are greater than for victim-organizations with a commitment to independence. In other words, as the religiosity of victim-organizations increases, their commitment to independence decreases.

Ordinal Regression Results for Religiosity and Impartiality

An ordinal logistic regression with proportional odds was run to determine the effect of religiosity of victim-organization on public commitment to impartiality. There are proportional odds, as assessed by a likelihood ratio test comparing the fitted model to a model with varying local parameters, $X^2(1)=.224$, $p=.636$. The deviance goodness-of-fit test indicates that the model is a good fit to the observed data, $X^2(1)=.224$, $p=.636$. However, the model is not statistically significant and does not predict the dependent variable over and above the intercept-only model, $X^2(1)=.101$, $p=.751$.

Table 4. Ordinal Regression Results for Religiosity and Impartiality

		Parameter Estimates						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Threshold	[Faith-Based]	-1.894	.173	119.476	1	.000	.150	-2.234	-1.555
	[Faith-Inspired]	-1.654	.161	105.526	1	.000	.191	-1.969	-1.338
Location	[Non-Commitment Impartiality=0]	-.135	.419	.104	1	.748	.874	-.957	.687
	[Commitment Impartiality=1]	0 ^a	.	.	0	.	1	.	.

The odds ratio of being in a higher category of the dependent variable for victim-organizations with non-commitment to impartiality is .874 (95 percent CI, -.957 to .687), which is not significantly significant, $X^2(1)=.104$, $p=.748$. Religiosity does not affect victim-organizations' commitment to impartiality.

Ordinal Regression Results for Religiosity and Advocacy

An ordinal logistic regression with proportional odds was run to determine the effect of religiosity of victim-organizations on advocacy efforts. There are proportional odds, as assessed by a likelihood ratio test comparing the fitted

model to a model with varying local parameters, $X^2(1)=.324$, $p=.569$. The deviance goodness-of-fit test indicates that the model is a good fit to the observed data, $X^2(1)=.324$, $p=.569$. The model is

statistically significant and predicts the dependent variable over and above the intercept-only model, $X^2(1)=10.875$, $p=.001$.

Table 5. Ordinal Regression Results for Religiosity and Advocacy

		Parameter Estimates						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Threshold	[Faith-Based]	-2.130	.189	126.368	1	.000	.119	-2.502	-1.759
	[Faith-Inspired]	-1.881	.177	113.400	1	.000	.152	-2.227	-1.535
Location	[Non-Policy Advocacy=0]	-1.179	.341	11.960	1	.001	.308	-1.847	-.511
	[Policy Advocacy=1]	0 ^a	.	.	0	.	1	.	.

The odds ratio of being in a higher category of the dependent variable for victim-organizations with a non-policy level of advocacy is .308 (95 percent CI, -1.847 to -.511), which is significantly significant, $X^2(1) = 11.960$, $p = .001$. For victim-organizations that engage in policy advocacy, the odds of scoring higher on religiosity is less than for victim-organizations that do not participate in policy advocacy. In other words, as the religiosity of victim-organizations increases, their likelihood of engaging in policy advocacy decreases.

Ordinal Regression Results for Religiosity and Level of Global Engagement

An ordinal logistic regression with proportional odds was run to determine the effect of religiosity of an organization on its level of global engagement. There are proportional odds, as assessed by a likelihood ratio test comparing the fitted model to a model with varying local parameters, $X^2(1)=.908$, $p=.341$. The deviance goodness-of-fit test indicates that the model is a good fit to the observed data, $X^2(1)=.908$, $p=.341$. The model is not statistically significant and does not predict the dependent variable over and above the intercept-only model, $X^2(1)=3.390$, $p=.066$.

Table 6. Ordinal Regression Results for Religiosity and Global Engagement

		Parameter Estimates						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Threshold	[Faith-Based]	-1.998	.180	123.536	1	.000	.136	-2.351	-1.646
	[Faith-Inspired]	-1.755	.167	110.054	1	.000	.173	-2.083	-1.428
Location	[Engagement=0]	-.715	.370	3.733	1	.053	.489	-1.440	.010
	[Engagement=1]	0 ^a	.	.	0	.	1	.	.

The odds ratio of being in a higher category of the dependent variable for victim-organizations with non-high levels of engagement is .489 (95 percent CI, -1.440 to -.010), which is not significantly significant, $X^2(1) = 3.733$, $p = .053$. Religiosity does not impact victim-organizations’ level of global engagement.

Conclusion

This study assesses the differences between religious and secular organizations across two issue areas. The first issue pertains to organizational commitment to the humanitarian principles of neutrality, independence, and impartiality. It is noteworthy that twenty-nine (32 percent) of the ninety-two victim-organizations fail to express a public commitment to a single principle. Secular organizations are twice as likely not to mention the three principles than faith-affiliated organizations. Why do so many organizations, particularly secular ones, fail to embrace these well-established principles? Most of the organizations that fall in this category rank low on global engagement. Smaller organizations with

established niches may not see a benefit to publicly embracing the principles. Similarly, organizations with a focused mission and specialized skill set, such as land mine removal, may also not benefit from such public acknowledgment. It is also possible that some organizations that do not publicly commit to the principles on their social media may indeed adhere to them in practice. However, it remains unclear why an organization would comply with the principles in practice but not claim to do so on their websites.

Organizations’ religiosity did not impact the principle of impartiality. It is uncommon to give prominence to a non-significant finding. However, the lack of any relationship between religiosity and commitment to impartiality deserves such attention as it confirms that religious organizations are equally committed to providing aid based on need alone as secular organizations. Fourteen organizations commit to only one principle on their websites. Nine of the fourteen organizations commit only to the principle of impartiality. As previously mentioned, religious organizations may have constraints on their commitment to independence and neutrality due to

their relationship with a larger institution or community. The vast majority of faith-affiliated groups that adhere to impartiality did so at the purposive level, making very clear their commitment to this principle. The *Code of Conduct* does not weight the importance of its ten principles. Yet, the need to impartially distribute aid clearly resonates as a higher priority with many INGOs. It should be noted that negative incentives also exist that encourage commitment to impartiality. An INGO perceived as bias could endanger itself in a conflict zone, alienate potential donors, find itself marginalized in a specific relief effort, or ostracized by civil society.

The results of this study suggest that religiosity impacts INGOs' commitment to neutrality and independence. As religiosity of an organization increases, its commitment to neutrality and independence decreases. Why are religiously affiliated organizations less likely to embrace these two principles? INGOs with a religious affiliation may not stray from official doctrine or refute their benefactor's position in a conflict. The term "non-governmental" implies that an organization characterized as such is independent of government control but not necessarily from other actors such as religious institutions or broader religious communities. Religious organizations may not suffer severe consequences for violating neutrality and independence due to the following mitigating factors. First, the principle of neutrality remains controversial both in the literature and within civil society. Second, the uniqueness of faith-affiliated organizations, specifical-

ly their alignment with institutions and larger communities, lessens expectations that they commit to neutrality and independence.

Advocacy and global engagement represent the second issue area examined. Religiosity is not a factor in explaining the global engagement of victim-organizations. However, religiosity is negatively related to policy advocacy. As religiosity increases, organizations are less likely to maintain a policy advocacy agenda. Religious organizations seem less interested in advocating at the policy level than their secular counterparts. Again, many religious organizations are part of a more extensive network where other components may engage in such activities.

This study shows that faith-affiliated INGOs victimized by terrorists do differ from their secular counterparts. Further research is needed to determine whether these associations between religiosity and commitment to humanitarian principles exist in the larger INGO community. Also, the only operational activity examined in this study was advocacy. Research that examines the association between religiosity and advocacy effort, as well as advocacy agendas, within the broader INGO community is also needed. Nevertheless, this study contributes to an understanding of the differences between faith-affiliated organizations and secular organizations. Calls for INGOs to respect the principles outlined in the *Code of Conduct* should consider religiosity and its impact on organizations' willingness and ability to commit to these principles.

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How Norm-Based Issue Frames Shape Public Support for Refugee Protection Policy: An Analysis Based on Survey Experiments in France and Germany

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ABSTRACT

This research uses experiments to examine whether the way that refugee protection is framed in the context of specific norms affects individuals' support for it as a policy issue across France and Germany. The treatments employ frames that emphasize human rights, violence against women (VAW), human security, humanitarianism, and autonomy norms, all of which are reflected in both the forced displacement literature and advocacy for refugees. The experiments provide some evidence that only certain norm-based issue frames have an effect on support for refugee protection policy, suggesting that some norms may be more powerful than others for garnering support in this issue area. The conclusion discusses these findings relative to the extant literature and considers the implications for advocates who seek to address the issue of refugee protection.

Keywords: forced displacement, refugees, public policy, issue frames, norms

Cómo los marcos temáticos basados en normas dan forma al apoyo público a la política de protección de refugiados: un análisis basado en experimentos de encuestas en Francia y Alemania

RESUMEN

Esta investigación utiliza experimentos para examinar si la forma en que se enmarca la protección de los refugiados en el contexto de normas específicas afecta el apoyo de las personas a ella como una cuestión política en Francia y Alemania. Los tratamientos emplean marcos que enfatizan los derechos humanos, la violencia contra la mujer, la seguridad humana, el humanitarismo y las normas de

autonomía, todo lo cual se refleja tanto en la literatura sobre desplazamiento forzado como en la defensa de los refugiados. Los experimentos proporcionan alguna evidencia de que solo ciertos marcos temáticos basados en normas tienen un efecto en el apoyo a la política de protección de refugiados, lo que sugiere que algunas normas pueden ser más poderosas que otras para obtener apoyo en esta área temática. La conclusión analiza estos hallazgos en relación con la literatura existente y considera las implicaciones para los defensores que buscan abordar el tema de la protección de los refugiados.

Palabras clave: Desplazamiento forzado, refugiados, políticas públicas, marcos temáticos, normas

基于规范的框架如何影响公众对难民保护政策的支持：基于法国和德国的调查实验分析

摘要

本研究通过实验分析特定规范下对难民保护的描述方式是否会影响法国和德国个人对难民保护这一政策议题的支持。实验运用了强调一系列规范的框架，规范包括人权、针对妇女的暴力、人类安全、人道主义、以及自主权，这些规范都在有关被迫流离失所的文献和难民倡导中有所体现。实验证明，仅部分基于规范的议题框架对支持难民保护政策产生了效果，这暗示一些规范可能比另一些在聚集难民保护支持上更有效。结论探讨了这些研究发现与现有文献的相关性，并考量了对试图应对难民保护议题的倡导者产生的意义。

关键词：被迫流离失所，难民，公共政策，议题框架，规范

Introduction

Research on normative framing examines how policymakers or advocates deliberately use norms to structure or present a problem or issue in such a way as to maximize support. The existing literature

on normative framing addresses many important policy issues, including environmental sustainability (Hurlstone et al. 2014; Raymond and Delshad 2016; Raymond 2016; Singh and Swanson 2017; Wiest et al. 2015), women's issues (Raymond et al. 2014; Weldon and Raymond 2013), and child marriage (Shaw-

ki 2015). This literature tends to focus on the impact of norm-based framing on policy change, or how advocates employ certain norms or frames to promote a given position. Although some studies examine how specific norm-based frames shape public opinion, almost no scholarly attention has been paid to the question of whether norms can be used to garner public support for contentious issues that have become both highly politicized and securitized, such as the protection of refugees, even though this issue lies at the heart of some of the most significant humanitarian crises of our time (Betts 2015; United Nations High Commissioner for Refugees [UNHCR] 2016). As a result, even though global need has increased, mobilizing adequate domestic support for policies aimed at refugee protection has been a key challenge facing many liberal democracies. In the United States and many European countries, for example, refugee protection has become heavily politicized and securitized in light of increasing nationalism and far-right party gains, making it difficult for both the general public, advocates, and policymakers to reach a consensus on how to appropriately address the issue. Prior research has shown that in such situations when the normative foundation of an issue is contested, normative framing can be particularly effective (Armitage and Conner 2000). This raises the question: can norms be used to construct the issue of refugee protection in such a way as to increase public support for refugee protection policy?

To examine how alternative ways of framing refugee protection based on

different norms impact public opinion about refugee protection policy, this research uses an experimental approach. Survey experiments in France and Germany focus on frames that position refugee protection in the context of human rights, violence against women (VAW), human security, humanitarianism, and autonomy norms. These different norms are reflected both in the literature on forced displacement and migration, and in the advocacy of organizations that promote refugee protection in Europe (Schnyder and Shawki 2020). As this research is exploratory, the prediction is that each type of norm-based frame should increase public support for the protection of refugees relative to the control group. The findings show that only certain norm-based frames shape support for refugee protection policy among the general public in these two countries. The conclusion offers a brief discussion of the implications of the results for the literature and for the creation of policy given recent calls from analysts for new solutions in addressing the plight of refugees amid trends in liberal democracies toward more restrictive policy provisions.

Issue Frames and Refugee Protection

Issue framing impacts how people process information. A frame emphasizes certain aspects of the issue at hand, and in so doing highlights the dimensions of the issue that are in-frame and out-of-frame (Snow 2013). For a given issue, in-frame dimensions can be used by advocates to construct

and communicate a certain narrative. Thus, the process of framing can redefine the way a particular issue or aspect of a problem is perceived and understood (Snow 2013). Through this process of “meaning construction” (Snow 2013, 470), advocates form a collective interpretation of a particular problem. This entails highlighting the cause of the problem, proposing solutions, and mobilizing people to engage in joint action to bring about the desired change. Issue frames can therefore be used to generate consensus about the nature of a problem and the solutions required to confront it, and can motivate people to take action in the particular ways suggested by the frame (Benford and Snow 2000; Snow 2013). The issue-framing literature provides robust evidence that public opinion varies according to how an issue is presented (Berinsky and Kinder 2006; Chong and Druckman 2007; Jacoby 2000; Krosnick and Kinder 1990). Since public opinion influences policymaking (Stimson et al. 1995; Soroka and Wlezien 2010), the framing of a particular issue can affect policy responses to it and, in turn, the prospects for effective action (Keohane 2015).

Recent studies on norm-based change have shown how norms can be incorporated into issue-framing processes (Raymond 2016; Raymond et al. 2014; Raymond and Delshad 2016; Raymond and Weldon 2013). Advocates may draw upon a particular norm and use that norm to frame an issue with the goal of changing what is considered to be the “standard of appropriate behavior” (Finnemore and Sikkink 1998, 891), thus setting the

stage for social and political change. Because different norms apply to different contexts, advocates must determine which norms make sense for particular problems or situations (Raymond and Weldon 2013). Through the strategy of normative reframing, for example, advocates work to reframe an issue in terms of a different norm that suggests different behaviors or policies compared to the status quo (Raymond et al. 2014; Raymond and Weldon 2013). Put differently, the process of normative framing involves attempts by norm entrepreneurs to apply a specific norm to an issue in crafting a frame so as to resonate with a target audience (Payne 2001). Normative reframing is a particularly useful framing strategy when there exists a weak “fit” between the status quo norm and the issue at hand. In such situations, advocates can attempt to reframe the issue by applying an alternative norm that they argue better applies (Raymond et al. 2014). The issue of VAW provides an example. In some countries, change advocates have been able to utilize international human rights and gender equality norms to argue that these norms apply to the issue of VAW. By reframing VAW as a matter of human rights (rather than a private domestic matter between individuals), advocates can change the way that VAW is viewed as a public policy issue (Weldon and Raymond 2013). In reframing the issue, advocates seek to apply the strongest possible norm(s) in order to strengthen the legitimacy of the newly proposed norm and render it difficult to infringe upon (Raymond et al. 2014).

There are often multiple norms that can apply to a given issue or problem, and absent definitive knowledge on which norm will have the greatest influence in producing political change, advocates must deliberate to settle on what they perceive to be a strong norm-based frame (Raymond et al. 2014). It is possible that different norm-based issue frames can generate different “framing effects” – a phenomenon well-documented in public opinion research. Framing effects occur when changes in how an issue is presented produce changes in public opinion on that issue (Chong and Druckman 2007). Often, even small changes to the presentation of an issue can result in dramatic fluctuations in opinion: “For example, when asked whether they would favor or oppose allowing a hate group to hold a political rally, 85% of respondents answered in favor if the question was prefaced with the suggestion, ‘Given the importance of free speech,’ whereas only 45% were in favor when the question was prefaced with the phrase, ‘Given the risk of violence’” (Chong and Druckman 2007, 104, citations omitted). In this way, different ways of framing the same basic issue can significantly change its meaning to respondents (Zaller 1992). Framing effects can therefore be expected inasmuch as an issue can be viewed from multiple perspectives and can be presented as having implications for many different norms, values, or beliefs (Chong and Druckman 2007).

Both the extant literature and the mobilization work by advocates re-

flect a number of different norm-based frames that are currently applied to the issue of refugee protection. For one, refugee protection is perhaps most commonly discussed in terms of human rights norms (Betts 2015; Orchard 2014; O’Flaherty and Fisher 2008; Millbank 2004; UNHCR 2016; United Nations 2013). For example, the United Nations Office of the High Commissioner for Human Rights (UNOHCR 1993, 2) argues that “There is a clear relationship between the refugee problem and the issue of human rights.” In addition to human rights violations being a major cause of forced displacement, disregard for human rights is also a problem during the process of seeking asylum, leading to the conclusion that “Respect for human rights is a necessary condition for both preventing and resolving today’s refugee flows” (UNOHCR 1993, 2). Some scholars argue that certain types of norms tend to be more influential in changing behavior than others, with human rights norms being among the strongest due to their wide appeal, broad acceptance, and logical consistency (Keck and Sikkink 1998; Raymond et al. 2014). More broadly, the public tends to see human rights as important (Bueno de Mesquita et al. 2005). This leads to the expectation that framing refugee protection in terms of human rights norms will lead individuals to increase their support for this policy issue. This is expressed in hypothesis form as:

Hypothesis 1: Respondents will increase their support for refugee protection when it is framed as a human rights issue.

Beyond human rights, several studies analyze VAW norms and their impact on policy change. For example, Weldon (2006) shows how activists deliberated to create new norms related to preventing VAW, and how the intentional creation of the VAW concept allowed for agreement on a common set of behaviors to be prohibited by these new norms, ultimately resulting in the first Intergovernmental Declaration on the Elimination of Violence Against Women (Raymond and Weldon 2013; Weldon 2006). Applying VAW framing to refugee protection, experimental research shows that American conservatives are more likely to support taking in refugees when it is framed as a matter of protecting women and children from violence (Sullivan and Rich 2017). In addition, research focusing on the European context shows that the public holds more favorable attitudes toward the inclusion of refugee girls (Bešić et al. 2018). Moreover, many NGO advocates employ a VAW frame when advocating for refugees, focusing on the domestic conditions that reinforce gender-based violence in many societies and thus cause women to flee (UNHCR n.d.; Women's Refugee Commission 2020). Taken together, this line of research and advocacy suggest that individuals may be more likely to become more supportive of a policy when it is framed in terms of VAW norms. This leads to the second hypothesis:

H2: Respondents will increase their support for refugee protection when it is framed as a matter of violence against women.

Over the past decades, the emerging norm of human security has occupied a central place in discussions of many global issues. The human security norm prioritizes the security of individuals, groups, and communities over traditional notions of state security (Mahmud et al. 2008). It stresses two aspects in particular: (1) safety from protracted threats including hunger, disease, and repression and (2) protection from sudden and harmful disruptions that negatively impact daily life (United Nations Development Program 1994). The academic literature applies the human security norm to many aspects of refugee protection, from the domestic conflicts that force displacement to the risks inherent in the journey to safety to the impact on host communities (Adelman 2006; Berti 2015; Edwards 2009; Jacobsen 2003; Odutayo 2016). In addition, UNHCR now places the refugee issue in a broader context of human security, as “[p]rotection of refugees is now primarily defined as security of refugees and refugee operations rather than in terms of the legal asylum process” (Adelman 2006, 7), as do other advocacy groups (e.g., Amnesty International 2020; European Council on Refugees and Exiles 2016). The framing of refugee protection as a human security issue, reflected in both the academic literature and advocacy, leads to the next hypothesis:

H3: Respondents will increase their support for refugee protection when it is framed in terms of human security.

The norm of humanitarianism is also relevant to the issue of refugee protection. Humanitarian norms generally in-

volve the obligation to assist vulnerable populations, and often involve actions by non-governmental organizations (Mills 2005). Applied to the behavior of states, Finnemore (1996) documents the importance of humanitarian norms in shaping patterns of military intervention over time. Song (2013) analyzes the application of humanitarianism to refugee protection specifically, noting inconsistencies between international legal frameworks and humanitarian responses. Similarly, in writing about refugee protection, Betts (2015, n.p.) explains that “The humanitarian principle implies that we have particular obligations toward those in need.” In addition, refugee advocates often emphasize the vulnerability of those who are forcibly displaced in alluding to the humanitarian norm (e.g., Liberty n.d.; Caritas n.d.). When it comes to public opinion, Blitz (2018) draws on surveys conducted by Amnesty International, the European Social Survey, and Pew Global Attitudes Survey across the European Union to document public support for humanitarian policy regarding refugees. In general, the literature notes that such “‘moral’ norms appealing to ethical or religious justifications are seen to be especially influential due to their deep-rooted nature and resistance to compromise” (Raymond et al. 2014, 200, citations omitted). This brings about the following hypothesis:

H4: Respondents will increase their support for refugee protection when it is framed in terms of humanitarianism.

The last norm examined is that of autonomy, which generally underlies the

principle of self-determination. Applied to those who have been forcibly displaced, self-determination may be seen as a principle empowering those who are marginalized, as opposed to a claim within or against a state (Maguire and Elton 2019). As many advocacy groups note, for the forcibly displaced the need to escape violence and war invokes the ability to control their own destiny (Alexander-Nathani 2017; La Cimade 2012; No One is Illegal 2003). The “universal applicability” and “strength” (McVay 2012, 36) of this norm may be useful for protecting such populations, leading to the final hypothesis:

H5: Respondents will increase their support for refugee protection when it is framed in terms of autonomy, or the ability to control one’s fate.

In sum, the findings of extant studies, while mixed, together imply that certain frames are likely to generate support for refugee protection. Taking these findings as the point of departure, this study contributes to the current discourse by examining how alternative ways of framing refugee protection affect opinion about refugee protection policy.

Experimental Protocol

Individuals over the age of eighteen in France and Germany were recruited to the experiments using Amazon’s Mechanical Turk (MTurk) from June through August 2019. These countries were selected based on several factors. First, France and Germany were among the EU member states with the highest

number of asylum applicants granted protection status in 2015, the height of Europe's refugee crisis (Eurostat 2016). In addition, each of these countries has longstanding and active migrant and refugee rights movements defined by the work of many civil society organizations and activist networks (Schnyder 2015). Yet opposition to refugee protection and migration in general can also be observed in these countries, primarily through far-right political party stances against it. In 2015, for example, France's far-right political party (Rassemblement National, formerly Front National) won 28 percent of the vote and won in the first round of France's 2017 presidential elections (European Election Database 2017), and Germany's far-right Alternative for Germany party has recently garnered a strong showing in the former Communist East (Bennhold and Eddy 2019). Thus, national debates over refugee protection are prominent in each of these countries in the aftermath of the 2015 refugee crisis.

Prior analyses of MTurk data have shown that it generates valid estimates of treatment effects (Berinsky et al. 2012; Goodman et al. 2013). While

MTurk samples are generally more reflective of the population compared to other convenience samples (Berinsky et al. 2012; Goodman et al. 2013; Huff and Tingley 2015), they are not representative. Therefore, while the use of MTurk data does not harm internal validity, it does impact the ability to make external generalizations.

High quality samples have been collected on MTurk for as little as US\$0.10 (Goodman et al. 2013). In this study, participants were paid US\$1.50 each for participation, regardless of whether or not the participant completed the experiment. Participants were randomly assigned to a control group or to treatments in which they were asked to read a paragraph that framed refugee protection as a human rights issue, an issue of VAW, a human security issue, a humanitarianism issue, or an issue of autonomy. The experiments thus consist of five treatment groups and a control group (which saw no frame). The five frames are presented in Table 1. After viewing their respective frames, participants were then asked to complete a short questionnaire (see Appendix). The experiments were administered online.

Table 1. Text of Frames

Human Rights Frame (n=44)

Some people might be threatened just because of who they are or what they do or believe—for example, for their ethnicity, religion, sexuality, or political opinions. These are violations of basic human rights. The risks to their safety and life are so great that they feel they have no choice but to leave and seek safety outside their country because their own government cannot or will not protect their human

rights. Everyone is entitled to full protection of their human rights, but refugees must rely on another country to make sure that their human rights are protected. Seeking protection in another country is a human right that everyone has.

Violence Against Women Frame (n=35)

Increasingly, many refugees are women and children. Many women are forced to leave their own country because their government will not protect them against forced marriage, human trafficking, domestic violence, or other forms of violence against women. When they leave, they often bring their children along to protect them. Along the way, they face different forms of violence at all stages of their journey toward peace. They must rely on another country to make sure that they receive protection against violence.

Human Security Frame (n=40)

Governments normally guarantee the security of their citizens. But when people become refugees, this safety net disappears. Because of their race, religion, nationality, political opinion, or membership in a particular social group, they are no longer secure in their own country. They have no protection and must rely on another country to make sure that they receive the security they need. For many, leaving one country for another is a complicated process with risks and insecurities. They face attacks and are at risk of being exploited or suffering discrimination. If other countries do not let them in or protect them, their basic security and even their lives are in danger.

Humanitarian Frame (n=38)

Refugees are some of the most vulnerable people in the world. Often they must leave everything behind when they leave their countries. Many religious organizations provide refugees with protection and support. Refugees and other extremely vulnerable people rely on these humane actions that value the sanctity of human life. This requires that people work to uphold certain values, including an open and welcoming approach to the “stranger,” to the neighbor in need, and to those in distress. When societies welcome refugees, they respect the dignity of every human being and promote an inclusive community.

Autonomy Frame (n=38)

In the twentieth century, governments around the world started to place more limits on peoples’ freedom of movement. For people who need to escape violence and war, this means that they are not free to control their own destiny because they may not be allowed into a safe country. Some people think that everyone should have the ability to decide for themselves where they wish to live and work. They

believe that this is part of controlling our own lives. After all, people have always moved and always will. Since the beginning of the human species, people have not stopped moving on the surface of the Earth. Today, roughly 244 million people live outside of the country they were born in. For as far back as we can trace our history, migration has been a part of the human condition.

Note: Respondents were randomly assigned to a treatment frame. The control group (n=46) did not see a frame. In each treatment group, the paragraph was prefaced with the following definition of a refugee: “A refugee is someone who has been forced to escape his or her country because of war, or because they are being threatened with extreme violence, death, or other types of inhumane treatment in their own country.” Roscoe (1975) proposes the rules of thumb (as cited in Sekaran and Bougie 2010, 296–97) concerning minimal sample sizes per group of thirty as appropriate. Here, a minimum sample size of thirty-five is required for a minimum desired power of 0.72 and a 90 percent confidence interval (Brant n.d.).

Source: Civil society organization framing of refugee protection as researched and reported in Schnyder and Shawki 2020.

Consistent with the study’s IRB protocol, participants provided consent online prior to reading the framing paragraphs and answering the survey questions. Before they took part in the experiments, participants were shown a description of what the experiments would entail, the estimated time for completion, and compensation details. Participants were also informed that their MTurk “worker IDs” would only be collected for the purposes of distributing compensation and would not be shared with anyone. If consent was given, then participants had the opportunity to click on a link to proceed to the next screen.

The MTurk sample across France and Germany consists of 259 respondents. Because eighteen respondents did not correctly answer a “filter” question, the usable sample consists of 241 respondents. The sample is pooled across the two countries in order to maximize the total number of participants per treatment group.

The survey experiments include three dependent variables. First, to measure the absolute importance of refugee protection respondents were asked to assign a value from 0 to 10 to the importance of refugee protection policy, with 0 representing no importance and 10 representing very high importance. Next, since an individual could rank refugee protection as having high absolute importance, but rank it low in comparison to other issues perceived as salient, the relative importance of refugee protection is measured as the rank that respondents assign to refugee protection compared to six other salient global issues: climate change, democratization, global public health, international economic policy, the spread of nuclear weapons, and terrorism. These issues were gleaned from a Gallup poll (Riffkin 2014), a Pew Research Center poll (Stokes 2013), and the Eurobarometer survey (Eurobarometer 2014). Lastly, in order to measure participants’ views on refugee protection relative

to the status quo (Sullivan and Rich 2017), respondents were asked whether the number of refugees allowed to enter their respective country should in-

crease, stay about the same, or decrease. The summary statistics for each dependent variable are presented in Table 2.

Table 2. Summary Statistics for Dependent Variables

	Mean	Std. Dev.	Min.	Max.
Rating, Importance of Refugee Protection	7.25	2.23	0	10
Ranking, Importance of Refugee Protection (1=most important)	4.42	1.52	1	7
Number of Refugees Should (1=decrease, 2=stay about the same, 3=increase)	2.05	0.73	1	3

Source: Survey experiments.

The Effects of Framing on Support for Refugee Protection

The effects of the different treatments are examined using a difference-in-means estimator. The results are reported in Table 3.

The first dependent variable of focus is individuals' opinions about the absolute importance of refugee protection. Table 3 conveys differences in mean ratings of the importance of refugee protection policy across the five treatments. Differences are considered relative to the control group, for which the mean rating of refugee protection importance on the 0-10 scale is 7.50. Overall, there is not a statistically significant framing effect in any of the treatments, which does not support the hypotheses.

Next, the relative measure of refugee protection policy importance is considered, in which refugee protection policy importance is ranked relative to

the six other major global issues. The measure ranges from 1 (most important) to 7 (least important). In the control group, the mean ranking of refugee protection policy is 4.26. Again, Table 3 illustrates the differences in the mean rankings of the importance of refugee protection policy across the five treatments, relative to the control group. Similar to the dependent variable of absolute importance (above), the results indicate no statistically significant effect of framing on the rankings of the importance of refugee protection in any of the treatments, which again works against the hypotheses. These generally null findings may arise because for each of these dependent variables, the means show little variation across groups. When asked about the general "importance" of refugee protection, individuals' opinions are similar across treatment group and between treatment groups and the control group. It is possible that the "importance" phrasing is not a specific enough measure of support.

Table 3. Refugee Protection Frames and Ratings of Support for Refugee Protection Policy

	Estimated Treatment Effect	Mean Score	Two-Tailed p-value	90% Confidence Interval
DV: Importance of Refugee Protection				
Human Rights Frame	-0.068	7.43	0.440	6.89, 7.97
Violence against Women Frame	-0.043	7.46	0.469	6.78, 8.14
Human Security Frame	-0.500	7.00	0.147	6.43, 7.57
Humanitarian Frame	-0.447	7.05	0.185	6.41, 7.69
Autonomy Frame	-0.474	7.03	0.165	6.44, 7.62
DV: Ranking of Refugee Protection				
Human Rights Frame	0.057	4.32	0.429	3.94, 4.71
Violence against Women Frame	0.180	4.44	0.307	4.02, 4.86
Human Security Frame	0.124	4.38	0.359	4.01, 4.75
Humanitarian Frame	0.397	4.66	0.124	4.26, 5.06
Autonomy Frame	-0.045	4.22	0.455	3.81, 4.63
DV: Number of Refugees Should Increase or Stay the Same				
Human Rights Frame	0.170	0.84	0.031	0.75, 0.93
Violence against Women Frame	0.190	0.86	0.025	0.76, 0.96
Human Security Frame	0.050	0.72	0.309	0.60, 0.84
Humanitarian Frame	0.010	0.68	0.461	0.55, 0.81
Autonomy Frame	0.090	0.76	0.183	0.65, 0.88

Note: Estimated treatment effects represent differences in mean scores relative to the control group. Source: Data from survey experiments.

The last dependent variable represents a more specific measure of support for refugee protection by explicitly asking respondents whether the number of refugees permitted to enter their country should decrease, stay about the same, or increase. To further distinguish between those who believe that refugee protection policy should become more stringent relative to those who do not,

this variable was recoded such that zero indicates decrease, whereas 1 indicates no change or increase. Table 3 presents differences in mean ratings of support across the five treatments, which again are considered relative to the control group, whose mean level of support is 0.67.

Although there is no evidence of a statistically significant effect of

framing across all treatments, two treatment groups are statistically significant, which indicates support for specific framing effects. More specifically, respondents who are exposed to the human rights frame and the VAW frame show increased support for refugee protection policy relative to the control group. Expressed as a proportion, among those individuals exposed to the human rights frame, roughly 84 percent favor either maintaining current numbers or increasing the number of refugees admitted into the country, compared to roughly 67 percent in the control group. The effect is slightly greater for those exposed to the VAW frame. Among those respondents, 86 percent favor maintaining current numbers or increasing the number of refugees allowed into the country. Overall, these findings provide some support for hypotheses 1 and 2.

In sum, the strongest frames among those tested are the human rights frame and the VAW frame. This is consistent with the literature that highlights these frames as particularly powerful, as they are based on strong and widely accepted norms. By contrast, these experiments do not find evidence that framing refugee protection as a matter of human security, humanitarianism, or autonomy alters support for refugee protection or perceptions of its importance as a policy issue. Still, these null findings do not necessarily indicate that these issue frames have no effect. In other words, the inability to reject the null hypotheses of no treatment effects only indicates that we cannot conclude that there are, in fact, treatment effects.

It cannot definitively conclude that there are no effects (Gill 1999).

Conclusion

Using survey experiments, this exploratory analysis finds that only two of the five issue frames tested significantly alter public support for the protection of refugees in France and Germany, and only when public support is measured by specifically asking about admitting refugees into the country rather than more general issue “importance” measures. The two frames that produce treatment effects (human rights and VAW) are notable in that their underlying norms are widely considered to be powerful and influential (Raymond et al. 2014; Weldon 2006; Weldon and Raymond 2013). Many human rights norms, for instance, have been found to be compelling across many individuals and societies (Keck and Sikkink 1998). In addition, VAW norms have “undisputedly” become a central aspect of women’s rights and a “core dimension of human rights” (Raymond et al. 2014, 2006). These findings complement other research that finds that the strength of the norm underlying a particular policy matters in terms of predicting the overall stability of that policy (Raymond 2016). Experimental public opinion studies such as this can be used to determine the relative influence of different norms as applied to a given policy issue, and policy designers can use this type of information to create policies that are more resistant to sudden change (Raymond 2016).

Each of the frames discussed the issue of refugee protection in global terms. Although the global level is most fitting for describing the issue, past research suggests that an issue risks becoming seen as a psychologically abstract event when placed in a geographically distant context (Singh and Swanson 2017). As it is more difficult for individuals to evaluate and make decisions about psychologically abstract concepts as opposed to more concrete concepts (Liberman et al. 2007; Trope and Liberman 2003), the global level of the treatment frames could diminish the level of importance individuals assign to refugee protection policy. Several studies examining other policies suggest that local-level frames may have particularly strong effects (Wiest et al. 2015; Hornsey et al. 2016; Spence et al. 2012). Thus, one area for future research is to create and test localized frames applied to the issue of refugee protection.

Recent research has shown that Europeans hold more tolerant attitudes toward the protection of refugees and asylum seekers than many politicians and the media traditionally assume, and that these views tend to be quite similar across European countries (Jeannot et al. 2019). Hochschild and Einstein (2015) underscore how misinformation about public opinion and public policy preferences can produce bad policies. For advocates who seek to induce public concern about refugee protection by “repackaging” the issue, the results of this study are potentially encouraging if strong and widely supported norms are used as the basis of framing. Individuals’ support for refugee protection policy is not as rigid as is often assumed when the issue is portrayed as a matter of human rights or VAW. Advocates seeking to alter individuals’ beliefs are thus likely to find some utility in issue framing supported by these widely accepted and influential norms.

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Declaration of Interest Statement

The author declares that she has no conflict of interest.

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APPENDIX

Survey Questions

Should the number of refugees allowed to enter your country decrease, stay about the same, or increase?

1=Decrease

2=Stay about the same

3=Increase

As a policy issue, how important is the protection of refugees, where 0 means not important at all and 10 means very important?

(Not important at all) 0 1 2 3 4 5 6 7 8 9 10 (Extremely important)

Rank the following policy issues in order of importance from 1 (most important) to 7 (least important):

Listed in alphabetical order:

- ___ Climate change
- ___ Democratization
- ___ Global public health
- ___ International economic policy
- ___ Protection of refugees
- ___ Spread of nuclear weapons
- ___ Terrorism

What is your gender?

1=Female

2=Male

3=Non-binary

4=Prefer not to say

What is your age?

[drop-down menu indicating 19 through 100]

101=Prefer not to say

What is your highest level of education completed?

1=Some high school

2=High school

3=Some university

4=Trade/technical/vocational training

5=4 year university degree

6=Postgraduate degree (Master's degree, Doctorate degree, or PhD)

7=Prefer not to say

Research in decision-making shows that people prefer not to pay attention and minimize their effort as much as possible. If you are reading this question and have read all the other questions, please select the box marked "other." DO NOT select "refugee policy."

Thank you for participating and taking the time to read through the questions carefully!

1=Domestic Politics

2=Refugee Policy

3=The European Union

4=Other

Please enter your Worker ID to receive payment for completing this survey. (Workers can find their Worker ID on their Dashboard or in the upper left corner of the new Worker website.)

Operationalizing Intelligence Collection in a Complex World: Bridging the Domestic & Foreign Intelligence Divide

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ABSTRACT

Intelligence collection is a powerful US intelligence capability, which has demonstrated its effectiveness in categorizing complex threats. Intelligence collection, however, is not “operationalized” in the sense that it can quickly shift collection capabilities to focus on adaptive threats. Additionally, it is not bridged to effectively function across the domestic and foreign elements of the intelligence community. Modern-day threats are adaptive, complex, and span national boundaries, while intelligence collection remains largely within its domestic and foreign confines. While there are high-level bodies that coordinate collection, a key gap in the intelligence community’s approach is an organizational element that operationalizes and bridges domestic and foreign intelligence collection to ensure the community can meet the highest priority threats. This represents a significant seam in the community’s capacity to meet modern-day threats in a complex environment. This conceptual paper uses Hesselbeim’s seven-faceted transformation framework to develop an approach to operationalizing and bridging intelligence collection across the domestic and foreign divide. It concludes that such an organizational bridging function is valid and necessary in order to meet modern-day and emergent threats.

Keywords: intelligence collection, organizational design, change management, transformation

Recopilación de inteligencia operativa en un mundo complejo: superando la brecha de inteligencia nacional y extranjera

RESUMEN

La recopilación de inteligencia es una poderosa capacidad de inteligencia de EE. UU., Que ha demostrado su eficacia para categorizar

amenazas complejas. Intelligence Collection, sin embargo, no está “operacionalizado” en el sentido de que puede cambiar rápidamente las capacidades de recopilación para centrarse en las amenazas adaptativas. Además, no tiene un puente para funcionar eficazmente a través de los elementos nacionales y extranjeros de la comunidad de inteligencia. Las amenazas de hoy en día son adaptables, complejas y traspasan las fronteras nacionales, mientras que la recopilación de inteligencia permanece en gran medida dentro de sus límites nacionales y extranjeros. Si bien hay organismos de alto nivel que coordinan la recopilación, una brecha clave en el enfoque de la comunidad de inteligencia es un elemento organizativo que operacionaliza y une la recopilación de inteligencia nacional y extranjera para garantizar que la comunidad esté preparada para enfrentar las amenazas de mayor prioridad. Esto representa una veta importante en la capacidad de la comunidad para enfrentar las amenazas modernas en un entorno complejo. Este documento conceptual utiliza el marco de transformación de siete facetas de Hesselbeim para desarrollar un enfoque para poner en funcionamiento y unir la recopilación de inteligencia a través de la división nacional y extranjera. Concluye que dicha función de puente organizativo es válida y necesaria para hacer frente a las amenazas actuales y emergentes.

Palabras clave: Colección de inteligencia, diseño organizacional, gestión del cambio, transformación

在复杂世界中情报收集进行操作化：在国内和国外情报鸿沟之间搭建桥梁

摘要

情报收集是美国强有力的情报能力，其已通过对复杂威胁进行分类从而证明了有效性。然而，情报收集还未实现“操作化”，即能迅速转变收集能力，聚焦于适应性威胁（adaptive threats）。此外，情报收集还无法在国内和国外情报界之间进行有效运作。现代威胁具有适应性和复杂性，并且跨越国家边界，然而情报收集在很大程度上还局限于国内和国外范围。尽管存在能协调情报收集的高级别机关，但情报界方法的关键不足在于没有一个能对国内和国外情报收集进行操作化并在二者间搭建桥梁的组织要素，以确保情报界能准备好面对最需优先处理的威胁。这代表情报界在应对复杂环

境中的现代威胁的能力方面存在显著缺陷。本篇概念性文章使用学者Hesselbeim的转型框架（包含七个方面），以期提出一项能在国内和国外情报鸿沟之间对情报收集进行操作化并搭建桥梁的方法。本文结论认为，这样一个跨越障碍的组织功能是有效且必要的，以期应对现代新兴威胁。

关键词：情报收集，组织设计，变革管理，转型

We need to deal with the realities of globalization—the blurring these days of foreign and domestic matters. Because when threats like terrorism and international organized crime transcend borders, it's critical that we think holistically about intelligence. But we're also a people who—Constitutionally and culturally—attach a high premium to our personal freedoms and our personal privacy.

—James Clapper, former Director of National Intelligence
(DNI 2013)

Introduction

The 9/11 attacks ushered in a new era and challenge for the US national security and intelligence communities. Within the span of several hours, two major US cities and a downed civilian airliner suffered significant loss of life that resulted in a tremendous psychological impact. The 9/11 attacks highlighted the intelligence and security challenges of living within an integrated and globalized environment. While global threats have always had domestic implications, the economies of scale associated with the attacks were significantly egregious. A relatively small group of motivated terrorists planned and executed an extremely lethal attack at the expense of approximately \$400,000 to \$500,000 with nineteen suicide operatives, in-

flicting over 3,000 deaths and billions of dollars in damage (National Commission on Terrorist Attacks Upon the United States 2004). This attack triggered trillions of dollars in expenditures and the largest reorganization of the US government since the *National Security Act of 1947* created the Department of Defense (DoD) and the modern-day US Intelligence Community. The impact and the scale of the attacks illustrated the need to significantly re-evaluate the foreign-domestic divide of national security.

Within the national security context, the 9/11 attacks also marked a stark departure from the Cold War approach to addressing and categorizing intelligence issues. The US Intelligence Community, traditionally focused on threats posed by nation-states, was

suddenly faced with an unconventional, adaptable, asymmetric, complex, and non-state threat. Intelligence estimates, traditionally based on analysis of weapon systems, procurement, and movement of major military units, were challenged with having to assess an individual's intent, strategies, and motivations. Because these attacks occurred on US soil, the convenient organizational demarcation between foreign and domestic intelligence was forever blurred and altered.

The organizational response to dealing with this contrived demarcation, however, was not novel or forward leaning, nor did it span the domestic and foreign intelligence communities' resources and capabilities. In the aftermath of the attacks, intelligence reformists called for dismantling the barriers to information sharing. Slogans and buzzwords that highlighted the ineffectiveness of integrating intelligence, sharing information and failure to act upon promising intelligence led to the promises of a "culture of continuous improvement" in response to the key findings in the Congressional Joint Inquiry (US Senate 2002), which stated:

Serious problems in information sharing also persisted prior to September 11, between the Intelligence Community and relevant non-Intelligence Community agencies. This included other federal agencies as well as state and local authorities. This lack of communication and collaboration deprived those other entities, as well as the Intelligence Community, of

access to potentially valuable information in the "war" against Bin Laden.

Another slogan, "failure to connect the dots," was popularized by the National Commission on Terrorist Attacks Upon the United States (2004) to highlight these shortfalls.

While the sharing of information within and among organizations is arguably a fundamental premise for success, it is also singularly narrow in its perspective. Merely sharing information or even achieving the ultimate end state of "information sharing" does not guarantee a secured homeland. It glosses over the other intelligence functions and tasks necessary to work together to better posture intelligence capabilities. Additionally, while the post-9/11 changes to the national security and intelligence communities were significant, they were also narrowly focused on international terrorism with linkages to and within the United States. The creation of the Department of Homeland Security (2002), the establishment of the National Counterterrorism Center (2004), and the proliferation of state and local fusion centers with the original mandate to focus on terrorism are tangible manifestations of this narrow focus. Sharing information and fusion centers alone do not support the broader integration of functional intelligence activities—planning, analysis, collection, targeting, to name a few—necessary to bridge the various organizations engaged with making a safer homeland.

This concept paper focuses on one functional activity—intelligence

collection. The 9/11 attacks realigned the US Intelligence Community to focus largely on combatting Islamic terrorism from both domestic and foreign perspectives, given the contiguous nature of the threat. Over time, however, the rise of near-peer competitors, proliferation, transnational organized crime, espionage, cyber threats, and even consequence management responses to natural disasters have highlighted the need to operationalize and bridge intelligence collection across domestic and foreign communities. The term *operationalizing* suggests that intelligence collection must be aligned to support the highest priority strategic intelligence objectives in an integrated and timely manner according to an established strategy. Additionally, the term suggests that collection assets and resources should ideally be shifted quickly to meet emergent and trending threats. The term *bridging* highlights the organizational, process, and technological gaps that currently exist and that inhibit the operationalization of intelligence collection at the strategic level.

Despite the contiguous, changing, and dynamic nature of intelligence threats, the way intelligence collection is managed has not evolved. In other words, intelligence collection is not postured to meet modern day threats in a holistic and integrated manner. The requisite authorities, functions, and management tools to leverage these capabilities in an agile and timely manner remain divided and stove-piped across various domestic and foreign intelligence organizations and communities of interest. This represents a key seam

in the US Intelligence Community and limits its ability to align and leverage intelligence collection against the highest priority threats. The purpose of this paper is to establish a conceptual framework to explore the issue of operationalizing and bridging intelligence collection across the domestic and foreign elements of the intelligence community. It is meant to serve as a foundational concept that drives follow-on research and scholarship into an intelligence capability that is not fully realized.

Literature Review

The following review focuses on the misalignment of intelligence collection from a three-fold perspective. It delves first into the nature of the intelligence collection function in the modern day to gain a sense of the challenges and gaps that exist. Secondly, the review focuses on existing organizational designs within the US Intelligence Community that serve to operationalize intelligence collection. The review also focuses on current research to identify trends and issues framing intelligence collection. The majority of the literature reviewed is derived from peer reviewed journals and sources, but also includes relevant US government documents and doctrine.

Intelligence Collection

The issue of intelligence and its role in the post-9/11 world has been extensively debated. That said, much of the public debate deals largely with topical issues such as terrorism, regional crises,

cyber, or other functional issues such as intelligence analysis, information sharing, or knowledge management. The topic of intelligence collection, and more importantly, how it is managed, integrated, and leveraged to drive other intelligence functions has not been as extensively evaluated. Moreover, examining the issue of intelligence collection management from the perspective of bridging the foreign and domestic elements within the US Intelligence Community is largely absent.

Much of the recent literature and doctrine of intelligence collection stems from the US military and its involvement in major overseas engagements in Southwest Asia since the 2001 terrorist attacks. At the strategic level, the most recent *National Intelligence Strategy* (US Government 2019) effectively outlines several key attributes to enable effective intelligence collection. The strategy highlights the importance of Integrated Mission Management, which is to “Prioritize, coordinate, align, and deconflict IC mission capabilities, activities, and resources to achieve unity of effort and the best effect in executing the IC’s mission objectives” (Office of the Director of National Intelligence [ODNI] 2019). The key enabler is the importance of integration of capability, mission, knowledge, and intelligence collection to meet the highest priority threats across the intelligence community’s enterprise. The intelligence strategy also highlights the need for integration to bring the power of persistence in intelligence collection to meet complex threat challenges. A recent RAND study concluded, “Taken together, these challenges present

the IC with a daunting task and underscore the need for **persistence** [author’s emphasis] in collection, global analytic coverage, and more-agile intelligence organizations that can seamlessly and rapidly surge to crises” (Weinbaum et al. 2018, 44). The strategy acknowledges up-front that the strategic operating environment is “complex and uncertain world in which threats are becoming ever more diverse and interconnected” (National Commission on Terrorist Attacks Upon the United States 2004, 4). To operate within this environment, the national strategy outlines five necessary attributes critical to enabling enterprise objectives; namely, *intelligence integration, IC workforce, IC partnerships, transparency, and technological innovation* (National Commission on Terrorist Attacks Upon the United States 2004, 26). These attributes broadly capture the key initiatives to enable vertical and horizontal integration across the enterprise. They are also meant to operate across both the foreign and domestic components of the US Intelligence Community.

The intelligence collection capabilities employed to support the Integrated Mission Management function are divided into five disciplines: Human Intelligence (HUMINT), Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), Measurement and Signatures Intelligence (MASINT), and Open Source Intelligence (OSINT). Fundamental to the management of these five “INTs” are two key functions. First, *Collection Requirements Management (CRM)*, which involves the development and tasking of collection,

processing, exploration, or reporting requirements of assets under a collection manager or where tasking requests are sent to the asset owner, and secondly, *Collection Operations Management (COM)*, which deals with the direct scheduling and control of collection operations, processing, exploitation, and reporting. Viewed another way, CRM is “what” the intelligence community does to satisfy its requirements while COM is “how” the community collects its intelligence (ODNI 2011, 46–47).

Much of the literature that frames the topic of intelligence collection is organized along the examination of how these individual collection functions operate. Robert Clark’s (2014) seminal work, *Intelligence Collection*, provides a detailed insight into the various forms of collection and techniques and challenges of the tasking, collection, processing, exploitation, and dissemination (TCPED) process. He also distinguishes the challenges of managing “front-end” expectations with the customer and the establishment of collection priorities versus the innards of “back-end” individual collection challenges in terms of data management and production (Clark 2014). The challenges of managing the “back-end” TCPED architecture on a broader level is also identified as a key issue in a RAND Policy Paper, *Perspectives and Opportunity in Intelligence for US Leaders* (2018), which highlights the stove-piped nature and lack of transparency of the processing and exploitation of individual collection programs and the inability to make data discoverable across the enterprise (Weinbaum et al. 2018). As the policy

paper further points out, the promises of technology and integration has the possibility to serve as a key enabler for agnostic data discovery across the enterprise. Interestingly, the brief conceptualizes this approach to tackle the challenges associated with the US counterintelligence mission and challenges, which clearly contains both foreign and domestic elements.

The *5 Disciplines of Intelligence Collection* (2016) by Mark Lowenthal and Robert Clark further examines the five intelligence collection disciplines individually and concludes with a strategic-level overview of managing collection. While they acknowledge that each of the intelligence collection disciplines is examined individually, they also emphasize the importance of developing cross-INT strategies to leverage intelligence collection across the spectrum of capabilities. While *Intelligence Collection*, the *5 Disciplines*, and the RAND study focus largely on the technical aspects of the individual INTs and establish a clear description of collection capabilities while addressing some of the integration issues, there is little discussion on bridging the gap between the domestic and foreign intelligence communities.

Intelligence Collection: How to Plan and Execute Intelligence Collection in Complex Environments (2012) by Wayne Michael Hall and Gary Citrenbaum examines the issue of intelligence collection within a foreign-military perspective, but introduces several key and conceptual frameworks to illustrate the challenges of collection in the modern age. First, while focusing largely on the

ability of the US military and foreign intelligence to operate overseas, they recognize the growing complexity of the operating environment and the nonlinearity of the challenges. In other words, the global environment is increasingly complex, where intelligence activities are faced with complex adaptive systems operating in the expanse of the information age (Hall and Citrenbaum 2012). Faced with such challenges, they propose a forward-leaning definition of *Advanced Collection*, which is framed as “the creative design and use of technical, cyber, human, and open-source collectors in all domains—air, ground, sea, space, information, and cyber—in pursuit of discrete, subtle, nuanced, and often fleeting observables, indicators, and signatures” (Hall and Citrenbaum 2012, 3). More importantly, they posit that advanced collection approaches oriented on increasingly complex operating environments are necessary to mitigate an adaptive and agile adversary. While their research is oriented toward a foreign context, it is clear that these concepts equally apply and bridge foreign and domestic intelligence communities.

Most notably, *The US Domestic Intelligence Enterprise: History, Development, and Operations* (2015) by Darren Tromblay provides an extremely insightful, expansive, and in-depth examination of the domestic Intelligence Community. He describes the militarization of intelligence during the aftermath of the Cold War at the expense of not only domestic intelligence, but on other elements of national power (ENPs), such as diplomacy and economics. In terms

of intelligence collection, he articulates how collection requirements should be framed to support the decision-makers’ views on maintaining ENPs. He further identifies shortfalls to the current structure of establishing national priorities and how the current domestic intelligence structure is not optimally aligned to support them. He emphasizes, “Requirements-oriented collection, covering the scope of an issue, will inevitably produce coverage on which action can be taken” (Tromblay 2015, 9). In other words, there is inherent power in leveraging intelligence collection to focus on key requirements that span across the domestic and foreign elements of the US Intelligence Community. The challenge is conducting intelligence-driven operations within an integrated and enterprise approach that span these domestic and foreign elements.

Additional insights into intelligence collection stem from operating within a complex operating environment and the challenges of automating the collection management process. Within the domestic environment, the topic of intelligence collection is naturally framed within the debate of US government overreach, concerns with privacy, and data retention. Faced with operating in complex environments during combat operations, several articles of military literature highlight the need for automation to integrate various CRM/COM functions, the importance of collection persistence to categorize complex environments, and the importance of planning to employ a complex array of collection assets with their own associated TCPED ar-

chitecture and varying levels of control (Castagna 2004, 67–71; Schwerzler 2008, 25–27; Steriotti 2015, 46–48). The undercurrent themes in these articles highlight the challenge of intelligence collection within a complex operating environment. Additionally, the challenge lies not just in the complexity of the operating environment, but rather with the exponential growth of managing data given the digital revolution. As emphasized by Young (2013, 24–27), this “information overload” leads to cognitive overload, the potential for circular reporting, and inefficiencies in organizational management.

Although the US House of Representatives staff study, *IC21: The Intelligence Community in the 21st Century* (1996), predates 9/11 by several years, the scope of the study was expansive in nature and it was specifically enacted to examine the issues of intelligence collection within the community. The study recognized the changing global operating environment and the continued need for intelligence to support a growing number of disparate threats. In terms of collection, the study identified the challenge of integrating various intelligence stovepipes to leverage capabilities. It also identified the tasking and coordination shortfalls, along with the differences in culture between the intelligence and law enforcement communities. Of note, the study found:

Much of this information [intelligence] is disseminated to law enforcement and other agencies as strategic intelligence. It has followed that in seeing these capabilities, law enforcement

would at times like to task the intelligence community to collect on specific subjects. Of all the issues before the Interagency Task Force, this one has been the most difficult to resolve. (House of Representatives 1996, 312)

Interestingly, while the report identified the linkage between law enforcement and intelligence as one of the most difficult tasks, the key witnesses summoned to testify before the house committee and staff panels did not delve further into this topic—a key gap that remained unresolved.

While the focus of this paper lies solely on the issue of optimizing intelligence collection, there are naturally concerns with the topic as it applies to domestic intelligence. The passage of several key pieces of legislation introduced the use of mass surveillance systems capable of collecting prodigious amounts of data. With the disclosures of Edward Snowden and PFC Bradley Channing and an acrimonious bipartisan political environment accusing the opposing party of politicization, the issue of retaining information and data within a domestic environment is a highly charged issue. As outlined by Pulver and Medina, “80 percent of adults ‘agree’ or ‘strongly agree’ that Americans should be concerned with government surveillance of phone and internet communication” (Pulver and Medina 2018, 241–56). Similarly, there have been growing concerns that Bush-era warrantless wiretapping to pursue the “war on terror” has developed into broader intelligence objectives (Edgar

2017). Additionally, given the broader implications of domestic surveillance, there are growing concerns with not only data surveillance and data mining, but also the use of CCTVs and other tools and how these surveillance techniques are changing underlying culture (Bellaby 2012, 93–117). Given the disclosures and the inability of the current political climate to effectively address public concerns, the need to establish effective intelligence oversight mechanisms is clear (Galliot and Warren Reed 2016).

Clearly, intelligence collection in the modern era operates within an increasing complex environment. The need for agility, persistence, and bridging the foreign and domestic divide is critical to better posturing the US Intelligence Community to provide strategic warning and inform decision-makers. Additionally, there is a need for intelligence collection to support a broader set of customers, ranging from traditional national security and military customers to new ones within the homeland security enterprise and the public health and private sectors. This requires a highly adaptive, scalable, and forward-leaning approach to intelligence collection.

Organizational Design

Aligning US Intelligence Community collection capabilities to meet increasingly complex operating environments is a challenging task. It requires an examination into the development and design of organizational structures, policies, and mechanisms that are neces-

sary to lead and manage a modern-day intelligence enterprise. Much of the literature has tangentially addressed this topic—more from the perspective of justifying the existence of an organization rather than questioning the narrative of how the enterprise should be aligned. In terms of intelligence collection, few if any studies have focused on leveraging this key enabler across the domestic-foreign divide in an era of contiguous threats.

The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction (WMD) Commission (WMD Commission 2005), which examined the US Intelligence Community's pre-war assessment of WMD in Iraq addressed some of these design issues. Specifically, the commission identified the need for adopting an *Integrated Collection Enterprise* defined by the function and synergies created by target development, collection management, data management, strategic planning, and investment and for developing new collection techniques (WMD Commission 2005). It further states, "The goal of our recommendation is to create an integrated collection process that performs each of these functions from the perspective of the entire Intelligence Community, rather than individual agencies" (WMD Commission 2005, 357). In short, this would involve a collection enterprise bridging the domestic and foreign elements of the intelligence community.

The National Intelligence Collection Board (NICB), established in the

early 1990s, had the mission of managing the US Intelligence Community's overall intelligence collection process while ensuring coordination among the various intelligence agencies. It was envisioned that the board would evaluate the performance of collection methods and ensure the integration of the various INTs (Director of Central Intelligence Directive [DCID] 1993). Intelligence Community Directive (ICD) 300, the *Management, Integration, and Oversight of Intelligence Collection and Covert Action* (2006), established under the newly formed DNI, created the Deputy Director of National Intelligence for Collection (DDNI/C) to oversee the NICB and various other community collection boards aligned to the various intelligence collection disciplines (ODNI 2006). These functions now fall under the Deputy Director of National Intelligence for Mission Integration (DDNI/MI).

The integrated community collection enterprise envisioned by the WMD Commission (2005) was critical of NICB and how individual collection agencies worked within their specific areas with little crosstalk of requirements to develop integrated collection strategies. In this case, the commission recommended the establishment of Target Development Boards to focus collection and develop strategies to address prioritized target sets. In terms of domestic intelligence, the commission also recognized the resistance to change within the Federal Bureau of Investigation (FBI) and the importance of integrating domestic intelligence into the overall efforts of the US Intelli-

gence Community to meet modern-day challenges. During their investigation, they discovered little linkage between national-level and community intelligence collection requirements and intelligence activities being conducted in the field. As the report outlined, "at the working level, we found that national intelligence requirements were not uniformly understood" (WMD Commission 462). As such, one of the key commission recommendations, which was later adopted, called for the creation of the National Security Branch within the FBI with the authority to direct collection tasking to the FBI's domestic field offices and to serve as a conduit to coordinate on foreign intelligence collection. This new organization incorporated elements of the FBI's Counterterrorism and Counterintelligence Divisions along with elements of the Directorate of Intelligence.

With the post-9/11 debate concerning the reform of the US Intelligence Community and with the creation of the Department of Homeland Security (DHS) and the FBI's National Security Branch, there was also an extensive debate on whether the United States should adopt a solely dedicated domestic intelligence agency modeled along similar lines to many Allied countries. The purpose of such an agency was twofold: first, to solidify domestic intelligence processes and relationships with law enforcement and second, to serve as a conduit to leverage collection with foreign intelligence organizations. The Markle Foundation's (2002) *Protecting America's Freedom in the Information Age* narrowly focused on the

domestic intelligence issues from the need to ensure the balance of protecting civil liberties while gaining efficiencies with intelligence collection through improved use of technology and management.¹ The Markle study recommended that DHS assume the lead in domestic intelligence activities, but without a law enforcement responsibility. This finding is consistent with the original vision of DHS, as outlined in the *Homeland Security Act of 2002*. While the study emphasized the role of technology to enable intelligence collection, it also outlined the serious blowback should these efforts suffer mismanagement and lack of oversight.

There were also two early Congressional Research Service (CRS) studies focusing on the creation of a domestic intelligence organization. The first study in 2003 was enacted to evaluate the issue as a result of pending US Senate legislation on establishing a Homeland Intelligence Agency within DHS (Masse 2003). The study specifically examined the United Kingdom's domestic intelligence organization, MI-5, and compared it to traditional US approaches. The study concluded that the differences in culture between the US and the United Kingdom, governance structures, and differences within their respective intelligence communities would limit the feasibility of creating such an organization in the United States. The second study enacted in 2005 evaluated the creation of an independent domestic intelligence

organization while comparing the recommendations offered by the WMD Commission (2005) and its recommendation to establish the National Security Branch within the FBI (Cumming and Masse 2005). This study concluded that there were greater benefits to keeping the functions within one organization, where both mission areas could mutually support one another to create synergies between intelligence and law enforcement. In terms of recommendations, the CRS studies left the issue of integrating domestic and foreign intelligence collection undecided.

A series of RAND Corporation studies examined the issue of domestic intelligence. Like the CRS studies, the first, *Confronting the Enemy Within* (2004), examined the feasibility of a US domestic intelligence agency by evaluating the organizational approach of four countries: the United Kingdom, Australia, Canada, and France (Chalk and Rosenau 2004). The study was expansive in that it looked into the overall approach, institutions, history, and cultural differences between the United States and each of these countries. The study determined that domestic intelligence organizations without arrest powers tended to focus more narrowly on intelligence issues and that these organizations had a clearer interface with local communities. As the study further pointed out, these organizations had a longer history of recruiting and vetting sources and tailoring their approach to intelligence geared more toward human

1 In addition to the foundation, the Task Force consisted of members from the Miller Center of Public Affairs, the Brookings Institution, and the Center for Strategic and International Studies.

networks, while aligning their intelligence activities more precisely to support law enforcement operations. There was an absence of discussion, however, on leveraging intelligence collection that bridged the domestic and foreign elements of these networks.

Another study in the series, *The State and Local Intelligence in the War on Terrorism* (2005), more narrowly focused on the topic of domestic intelligence within the framework of state and local efforts to meet the threat posed by terrorism after the 9/11 attacks (Riley 2005). This RAND study identified some of the shortfalls within state and local efforts in terms of training, capacity, and sustainability. It also identified the lack of a standardized approach across the state and local efforts in terms of dissemination, reporting, and use of technology to facilitate integration. The report did not, however, address broader intelligence collection concerns to bridge efforts across the foreign-domestic communities.

Another RAND study, *Reorganizing US Domestic Intelligence: Assessing the Options* (2008), was sponsored by DHS and was tasked to examine the issue of creating an independent domestic intelligence agency (Treverton 2008). This study did not recommend a specific course of action but evaluated the issue more within the challenges of conducting domestic intelligence activities within a US setting. It highlighted the importance of clarifying mission, roles, and responsibilities—particularly when facing a duality of mission sets such as found in the FBI with having

to conduct both domestic intelligence and law enforcement. This finding is consistent with challenges identified by the WMD Commission. The study also found domestic intelligence fractures, where it was difficult to apply collection activities across the enterprise. This study also recognized the potential for recruiting from a more diverse skill set than individuals opting to enter more of a law enforcement-centric organization. There was no mention of bridging the concept of intelligence collection across the foreign-domestic divide.

The Challenge of Domestic Intelligence in a Free Society (2009) was another RAND study, which examined the evolution of domestic intelligence within a US historical context and the balance between ensuring national/homeland security and civil liberties (Jackson 2009). It also examined some of the costs associated with creating an independent agency. Similar to the other RAND studies, this volume did not recommend a specific course of action as to whether to create an independent agency. The final RAND study, *Considering the Creation of a Domestic Intelligence Agency in the United States: Lessons from the Experiences of Australia, Canada, France, Germany, and the United Kingdom* (2009) was similar to the 2004 *Confronting the Enemy Within* study in that it focused on the benefits of an organizational design implementing a clarity of mission within a domestic intelligence agency (Jackson 2009). It also identified shortfalls in collaboration between the intelligence elements of these Allied organizations and their respective law enforcement organiza-

tions and outlined some of the challenges of these domestic intelligence organizations with having to coordinate with their foreign intelligence counterparts. The study did not go into detail, however, on the nuances of coordinating intelligence collection requirements across the foreign-domestic divide.

The literature reviewed outlines several key issues with the organizational designs of the US Intelligence Community. While the WMD Commission (2005) outlined the need to adopt a more integrated approach to collection that spans across the foreign and domestic communities of the enterprise, there has been little discussion on precisely how to bridge and optimize that gap. Several studies have examined the issue of domestic intelligence, but there is very limited insight into how to bridge intelligence collection across the community. The Markle Report (Markle Foundation 2002) identifies a key challenge; when addressing challenges facing the newly formed Department of Homeland Security, it stated:

there is enormous resistance to giving the new department [DHS] the authority to receive intelligence in its “raw” form from other entities. But without these authorities the new directorate will be hampered significantly. An intelligence directorate with no collection powers of its own will not be able to set its own priorities or pursue avenues it considers important if it cannot influence directly the intelligence it receives. One of

the Administration’s first priorities once the Department of Homeland Security is established must be to coordinate a set of understandings among the relevant entities that will give the Department of Homeland Security real authority—without bureaucratic hurdles—to receive the information and analysis that it needs. (72)

This challenge of operationalizing and bridging intelligence collection across agencies and organizations remains a key bureaucratic challenge within the US Intelligence Community. It denies the ability to effectively employ a key and powerful intelligence activity to meet the nation’s threats. As such, it makes the community ill postured to meet the complexities of the global operating environment and the dynamic spectrum of threats that it faces.

Research

An examination of current research on intelligence collection and its underlying processes yields a broad perspective on current trends. Many of these trends examine the complexity of applying intelligence collection techniques against dynamic and enterprising adversaries operating in complex operational environments. The focus of this research primarily stems from the US military’s involvement in major combat zones, particularly in Afghanistan and Iraq. Much of the research deals with overcoming the planning process to enable intelligence and effectively orient it to modern-day issues. One study ad-

dressed the inherent rigidity in how the current intelligence collection management approach, while well suited for static environments, fails to adequately address focusing on agile adversary operations and dealing with what Hall and Citrenbaum call complex adaptive systems (Brown 2013). Another study accounts for how collection managers operating at local levels use gaming techniques to skew the intelligence collection requirements process to advocate for more collection assets as part of a zero-sum environment (Lamb 2014). Additional research examines the issue of planning by implementing automated decision support systems to optimize the development of intelligence collection requirements to ensure they are appropriately aligned to key intelligence issues (Tong 2010), while another study focuses on the need to reevaluate the concept of strategic warning (Kimmelman 2017). While much of this research is focused on developing collection strategies oriented toward tackling foreign intelligence issues, the need to ensure a suitable collection management process capable of dealing with complex operating environments is also appropriate for dealing with issues in the domestic environment.

Another line of research deals with the need for reevaluating collection more from a “bottom-up” versus a “top-down” process. Traditional intelligence collection systems, methodologies, and approaches are driven from the strategic level downwards. With the challenges of operating in hostile overseas environments, the US Army has recognized the need to establish organic

collection assets and capabilities at the front-end of their ground units in order to operate in complex environments. The development of front-end tactical analysis and collection efforts within Brigade Combat Teams (BCTs) to categorize the complex operating environments is viewed as an essential element to support ongoing operations (McGarry 2011; Murrill 2003). Reconciling the need for developing local intelligence collection capacity and integrating it with national efforts is also a challenge within the domestic setting. The focus of another study recognized the challenges facing state and local fusion centers with integrating national-level and federal sources of intelligence (Gomez 2013). Additional research has also focused on reevaluating some of the technologies that are used to process and exploit intelligence collection. Due to the digitization of data and the subsequent information overload that has taxed intelligence collection systems, there is a significant amount of effort to optimize the front-end of collection to enable the classification and sifting of data to occur at a much quicker rate (Ellis 2013).

In summary, numerous studies have examined trends in intelligence collection issues. While much of the current research is focused on supporting US military operations overseas in combat zones, the ability of the US military to operate in these complex environments has been challenged. The collection management processes that have been employed to direct collection, pushing sophisticated intelligence collection capabilities to the lowest-level possible, and tailoring these

capabilities to support local US military commanders are but a few of the many lines of research. It should be noted that effectively mapping complex networks at the local level, enabling intelligence collection, and managing collection are also relevant issues to the domestic intelligence environment. This is not to suggest that simply applying intelligence collection methods used overseas can be applied quickly in the domestic environment. It does, however, highlight many of the similar challenges that exist within the domestic intelligence enterprise.

Insights and Discussion

The most difficult problem I have found with my clients, whether they are profit or nonprofit, is to change their mindset. It's not technology; it's not economic conditions. It is to change their mindset.

—Peter Drucker (2010)

*I*ntegrated Collection Management seeks to leverage the power of intelligence collection to align a suitable array of capabilities against a prioritized set of targets. Just as important, the concept seeks to deconflict, match the “right” resources and capabilities at the “right” time, to achieve the unity of effort necessary to secure the homeland and protect US and Allied interests. In a dynamic operating environment categorized by complex adaptive systems, networks, and threats, the US Intelligence Community needs the ca-

capacity to quickly shift intelligence collection resources and capabilities to mitigate these threats. This requires not only a well-integrated set of collection strategies, but also the authorities and mechanisms capable of being implemented across an enterprise to realize these strategies. As evidenced by the literature, there is no clearly established mechanism or process within the community that leverages and aligns intelligence collection across the domestic and foreign components of intelligence. There is no operationalized intelligence collection function that serves to bridge the domestic-foreign gap.

There are clear sets of challenges that continue to face the US Intelligence Community despite the post-9/11 attempts at intelligence reform and reorganization. This article does not seek to enumerate them, but rather makes a case for operationalizing intelligence collection across the domestic and foreign elements of the community to achieve the integration necessary to operate within a complex operating environment. Intelligence collection, and more importantly the synergies and persistence that collection can bring to illuminate a target, is one of the more powerful US intelligence capabilities. For the US Intelligence Community to fully leverage collection capabilities, this means having to also operate across the domestic and foreign components of the community. Peter Drucker, noted management consultant and “change advocate,” emphasized the need to change the mindset or approach when faced with difficult challenges (Drucker 2010). In other words, the US nation-

al security and intelligence communities—both their domestic and foreign components—need to reconceptualize and revamp from scratch the function of intelligence collection to ensure that it is optimized to meet the challenges of the complex operating environment while operating within a framework that protects civil liberties.

This leads to the question of “how?” How can the US Intelligence Community reconceptualize and revamp intelligence collection that bridges the domestic and foreign components of the community? Another noted leader and management consultant, Frances Hesselbein, offers an excellent framework for reevaluating and transforming organizational culture. As she states, “Culture does not change because we desire to change it. Culture changes when the organization is transformed; the culture reflects the realities of people working together every day” (Hesselbein 2012, 26). To transform an organization and reconceptualize its approach, she proposes a seven-faceted framework, which consists of:

- Environmental Scanning
- Determining Implications
- Revisiting Mission
- Banning the Old Hierarchy
- Challenging the Gospel
- Communicating to Mobilize and
- Dispersing Leadership. (Hesselbein 2012, 27–28)

In terms of *environmental scanning*, Hesselbein proposes the identifi-

cation of two to three trends that will have the greatest future impact to the organization. Any organizational design should be suited and aligned to operate in its environment, and it is important to orient transformation initiatives to the identified trends that have the most significant impact. One of the key points emphasized by Professor Zegart in many of her works is that the US national security and intelligence “systems” are ill suited to meeting modern-day challenges (Zegart 1999). In this sense, Hesselbein’s insight to revisit and reassess current and emergent environmental trends before creating the organizational solution is a valid one. Her second point, *determining implications*, emphasizes the environmental context up front as the first measure of analysis as opposed to going with a “what we know approach.” In other words, it is necessary to frame and conceptualize the nature of a future approach free from its antecedents and on its own merits. A clear evaluation of current processes, an understanding of the trending issues, and their implications orient the nature of transformation.

Revisiting mission involves reevaluating the purpose of the endeavor. In this case, intelligence collection is recognized as a powerful capability—perhaps the ultimate high ground in the US Intelligence Community. Intelligence collection and the information and data that it generates are significant capabilities that can be leveraged to focus on the highest priority threats. Revisiting the underlying mission and purpose, however, of a new approach that bridges the domestic and foreign

elements of the intelligence community is a fundamental and valid exercise, as intelligence collection introduces several contentious issues across the community and the public at large.

Hesselbein's concept of *banning the old hierarchy* is probably one of the more controversial aspects of her framework. People and organizations are vested in their processes and approaches. In other words, change is hard. One of the criticisms of the US Intelligence Community is its resistance to change. Hesselbein's framework of creating or transforming a new organization based on its merits is a novel approach and one that can represent a radical departure of the prevailing organizational norm. For example, the very nature of creating an element within the US Intelligence Community that manages and operationalizes intelligence collection across the domestic and foreign components of the community is a stark departure from the prevailing norm. From the perspective of the *ancien régime*, such an approach could infringe upon the accepted bureaucratic norms of how the community conducts its "business."

Challenging the gospel is by its definition a difficult proposition. It is a challenge to orthodoxy. In terms of intelligence collection, it challenges the very notion of distinct intelligence collection disciplines: HUMINT to OSINT operating within its own distinctive stovepipe. It also crosses the several organizational boundaries that closely guard the sources and methods of intelligence collection. Integrating intelligence collection vertically and horizontally across the enterprise and de-

veloping mechanisms to operationalize CRM and COM functions is a daunting task. The scale and scope of the endeavor is not sufficient cause, however, for not pursuing a key functional gap in the community.

Communicating to mobilize is fundamental to any transformation effort. Change causes disruption to prevailing norms and the intent and necessity for change can be lost during a reform effort if not communicated effectively. Mobilizing the workforce and disseminating a compelling narrative for why change is necessary is a complex task that seeks to change perspective and behaviors. Hesselbein emphasizes selectively focusing and sustaining messaging efforts on *mission, goals, and values*, while actively engaging internal and external stakeholders to create dialogue and collaboration as opposed to merely disseminating communications in a piecemeal and one-way fashion.

Dispersing Leadership across the enterprise is the last attribute in Hesselbein's framework, which involves the devolution of leadership to the appropriate level. In other words, while there is still a need for strategic-level leadership at the apex of intelligence collection efforts, the devolution of leadership and developing leaders with the appropriate skills and authorities to manage collection is necessary. Overly centralized and rigid organizational structures face significant challenges when attempting to operate in a dynamic operating environment. Creating a shared leadership concept across an enterprise allows for greater agility to meet present-day challenges.

Operationalizing Intelligence Collection: A Conceptual Way Forward

Aligning an *Integrated Collection Management* system to meet modern and dynamic threats will require a novel approach. The conceptual framework for this article posits that intelligence collection—a key intelligence enabler and US capability—should be operationalized across the domestic and foreign elements of the US Intelligence Community. While intelligence collection requirements are coordinated and evaluated within the community through the NICB and other community bodies, a strategic-level coordination process that supports high-level CRM efforts is not postured to meet the complexities of the modern-day environment. This was one of the key findings from the IC21 study, which states, “it is not yet the body to compel the needed integration of the collection process within the community” (US House of Representatives 1996,70). The current literature shows little evidence to suggest that integrating collection across the community and in a dynamic fashion has been realized.

Key Assumptions

Hesselbein’s transformation and change framework is a useful tool to conceptualize a way forward to tackle the issue of bridging the domestic and foreign elements of the US Intelligence Community in terms of intelligence collection. Additionally, the term “operationalizing” intelligence collection is based

on several assumptions that frame the need for moving forward. These key assumptions are:

- The global security environment will continue to evolve in an adaptive, complex, and transnational fashion, categorized by a spectrum of threats ranging from near-peer competitor nation-states to non-state and topical threats, such as terrorism, crime, and cyber.
- The implications of time and distance will continue to diminish as a result of increased globalization, integration of world markets, and enhanced communications.
- Intelligence collection efforts are not effectively bridging the domestic and foreign elements of the US Intelligence Community where it can align collection capabilities in a dynamic and transparent fashion.
- Synchronization of intelligence collection across the domestic and foreign elements of the community and within individual collection stovepipes are not being optimized where they can be applied to the highest priority targets in an agile manner.
- The processing and exploitation of the “collection-take” is neither aligned nor transparent in how these processes are supporting higher-level requirements and intelligence problem sets.
- The dissemination and follow-on evaluation as the result of in-

telligence collection and analysis is not clearly understood by the broad set of customers that rely on the US Intelligence Community to support their needs.

- A holistic and *Integrated Collection Management* approach that spans both the domestic and foreign intelligence environment will fully leverage a core US intelligence capability and better posture the community to provide strategic warning on the full continuum of conflict to include measures falling short of conflict lying in the “gray zone.” (Hoffman 2018, 34–36)

The first two assumptions deal with the complexities of the global operating environment and the diversification and implications of the threat. Threats in the modern age are contiguous and have implications that span national borders. Additionally, despite anti-globalization efforts, the overall trend in human advancement will continue to lie in the integration of systems, markets, and issues. The next two assumptions deal with Clark’s “front-end” categorization of collection. There is no organizational element within the community that focuses purposefully on operationalizing intelligence collection across the domestic and foreign elements of the US Intelligence Community from a holistic perspective. Additionally, the synchronization of intelligence collection across its domestic and foreign elements while horizontally integrating across the individual intelligence collection stovepipes is not part of a well concerted intelligence collection strategy. The following

two assumptions address “back-end” collection issues in terms of aligning the TCPED architecture to maximize and leverage resources while aligning efforts to meet customer needs. Additionally, the dissemination architecture is not conducive to the customer to provide contextual and tailored feedback to the intelligence collector. The last assumption describes the complexity and challenge of intelligence in having to operate in an uncertain and changing environment, where many issues fall short of classic force-on-force confrontations. The US Intelligence Community will remain challenged with providing the key and critical insights to support warning analysis. Intelligence collection is the *sine qua non* of warning analysis. Maximizing the ability of intelligence collection efforts across the full expenses of the community and with all its capabilities will fulfill a critical role in better dealing with uncertainty and provide warning to existing and emergent threats.

A Way Forward

Environmental Scanning and Determining Implications

Utilizing Hesselbien’s transformational network and applying it to develop a conceptual way forward can offer some insights into the issues that a proposed operationalization of intelligence collection will have to consider. There are many issues that frame modern-day intelligence collection; it is recognized in the literature that intelligence collection functions within a complex environment. For fully leveraging intelligence

collection that spans across the domestic and foreign intelligence components of the comment, Hall and Citrenbaum (2012, 1) state: “We find ourselves in a knowledge war. This notion of knowledge war finds us wandering in a dense forest and coming to a precipice. The precipice allows us to peer into the dark abyss, which is the future.” They continue to state that we have three options: *purposeful stasis*, which acknowledges the issue, but accepts risk and avoids measures to resolve it; the appearance of action, which feigns reform; and lastly, to *fly* above the forest by taking a fresh approach, where all issues are subject for consideration. As Hall and Citrenbaum (2012, 2) suggest, “It is nonlinearity that defines the character of many of our challenges.” It is precisely this complex and nonlinear environment that compels a reevaluation of how the community manages intelligence collection to align it against the greatest and highest priority threats. A key issue in this case is the need for transforming intelligence collection.

The need for transforming intelligence collection to operate within a complex operating environment compels the US Intelligence Community to acknowledge a significant issue that has plagued the community for many decades, but which remains unresolved. The issue of information overload was foreseen in the late 1960s and early 1970s. This was a key finding of the Schlesinger Report (Review of the Intelligence Community 1971), which examined the significant rise in collection coupled with the minimal improvement in intelligence products and assess-

ments. With the advent of digitization and the World Wide Web, this issue has grown exponentially and beyond the ability of the community to effectively manage. As Young (2013, 24) points out, “The US intelligence community is currently inundated with information. This poses a serious challenge to effective intelligence work. Overwhelmed by data, analysts lose the ability to pick out what is important and fail to make good judgments.” In terms of intelligence collection, the ability of the “system” to process and exploit the information and data to form a coherent understanding of the “collection-take” is equally daunting. Information overload, coupled with a poor organizational design that focuses collection within individual stovepipes, makes it difficult, if not impossible, to make sense of the intake of collection when facing complex and nonlinear threats. Managing and addressing information overload will continue to impact the community for many decades to come.

Lastly, as alluded to above and emphasized by Clark (2014), the US Intelligence Community needs to address the intelligence collection function in terms of the barriers that prevent the integration of collection along vertical and horizontal organizational lines. As Clark (2014, 468) states, “We would like to achieve synergy in collection, which means real-time cross-INT collaboration among all collection groups. But the boundaries, or stovepipes, make it harder to allocate requirements to the assets and to collaborate in collection to achieve synergy.” Without first addressing the barriers, stovepipes, and

sharing processes that can enable collection managers to effectively fulfill their CRM/COM functions, any future intelligence collection transformation efforts will result in negligible improvement. In this case, vertical and horizontal integration must be the community's end state.

To summarize, we need to ask the question "Is there a need to transform the intelligence collection function?" While the answer may be self-evident, it will require an approach that takes a radically new approach to the issue. Creating a capacity that operationalizes and leverages intelligence collection across the domestic and foreign elements of the community is that new approach. Any future efforts aimed at fully leveraging intelligence collection, however, will have to deal with the realities and challenges faced by information overload and the need to effectively address the barriers to horizontal and vertical integration of intelligence functions within the US Intelligence Community.

Revisiting Mission

While the US Intelligence Community receives much of the blame when things go wrong and little credit when supporting a successful policy outcome, it is worth remembering a key and fundamental purpose for the community. As Cynthia Garbo (2004, 34), noted theorist on warning analysis, stated, "the Intelligence Community is expected to make daily judgments about the current situation, such as the state of military preparedness or combat readiness, in

a variety of countries which habitually conceal or attempt to conceal nearly all the strategic information." In the present, the US Intelligence Community is charged with assessing issues beyond the narrow confines of politico-military analysis and intentions. Global threats have evolved within an increasingly complex operating environment. These threats also have domestic and foreign components that relate to each other in nonlinear ways and that exist in gray zones and emergent environments. As Hall and Citrenbaum (2012, 3) postulate in coining their term for *Advanced Collection*, it is "the creative design and use of technical, cyber, human, and open-source collectors in all domains—air, ground, sea, space, information, and cyber—in pursuit of discrete, subtle, nuanced, and often fleeting observables, indicators, and signatures." They further assert that the notion of advanced collection seeks to address the *why* for intelligence collection, *where* the collection is occurring, *when* the community is collecting, *what* is being sought, the *contextual basis* for the collection in terms of its background and justification, the *criteria for success*, and defining the *relationship* or linkage to decision-making and policy objectives. In terms of *revisiting mission*, this paper offers an added requirement—the need to bridge the domestic and foreign elements of the community to operationalize intelligence collection.

Banning the Old Hierarchy & Challenging the Gospel

As stated earlier, operationalizing intelligence collection across the domestic

and foreign elements of the community is a stark departure from the prevailing norm. In many respects, it is a threat to how the community conducts its business. That said, however, national and homeland security, law enforcement, and intelligence and military communities have and continue to evolve in the post-9/11 environment—a term that is increasingly anachronistic itself. After 9/11, the proliferation of state and local fusion centers, for example, was viewed with suspicion by the Intelligence Community. These centers have evolved beyond the narrow confines of focusing on terrorism to support a broader range of issues. Additionally, as the result of combat experience in Iraq, Afghanistan, and other areas across the globe, the integration of intelligence capabilities directly supporting the warfighter has enabled the ability of precision strike and tailored intelligence to quickly attain combat objectives. US involvement in these post-9/11 conflicts has resulted in the employment of intelligence capabilities never before envisioned. In other words, these evolutionary developments did not result in *banning the old hierarchy*, but rather orienting the community to meet the present-day complexities of the operating environment.

Challenging the Gospel follows closely with reassessing established hierarchies. This is where developing novel approaches to dealing with the two key implications, information overload and vertical and horizontal integration, will challenge the established norms. Adopting integrative technological architectures that span organi-

zational boundaries, linking underlying processing and exploitation architectures to enable cross-INT fusion and management of intelligence collection or establishing integrated CRM/COM processes that also span organizations and stovepipes will fall within the “too hard to do” or *purposeful stasis* approach as described by Hall and Citrenbaum. While outside the scope of this conceptual paper, it will also require a reevaluation of the legal frameworks to enable operationalized sharing across the domestic and foreign elements of the community.

The underlying justification and premise of this discussion, however, is that intelligence collection—a key US Intelligence Community capability and strength—is not fully leveraged and operationalized to meet the complexities of the modern-day operating environment and global threats. As such, it is necessary to elevate these critical issues, whether addressing information overload or integration efforts, to ensure that intelligence collection is fully leveraged. Instead of referring to the post-9/11 environment and using a current event, such as the COVID-19 pandemic, intelligence professionals and policymakers should ask: how could an *Integrated Collection Management* approach that spans the domestic and foreign elements of the community have better postured the United States to meet the COVID-19 threat? Could strategic warning and analysis have been enhanced? Would the US Intelligence Community be better aligned to support ongoing public health and recovery efforts? In the present age framed by

complexity and non-linearity, the ability of the US Intelligence Community to operate and provide support to a wide variety of customers—including public health—will require extensive horizontal integration across communities and networks where communities of collection managers and intelligence analysts can collaborate to assess indicators in a seemingly nonlinear problem set. As envisioned by Dunn Cavely and Mauer (2009, 139), “this means that horizontal knowledge networks need to be embraced, even at the expense of vertical integration.”

Communicating to Mobilize

Transformational efforts are also contingent on mobilizing the workforce and engaging with key stakeholders. When viewed another way, sustainable transformation is also contingent upon change to organizational culture. In terms of its people, the *National Intelligence Strategy* (US Government 2019, 20) addresses the need for an inclusive culture that “connects each employee to the organization; encourages collaboration, flexibility, and fairness; and leverages diversity throughout the organization so that all individuals are able to participate and contribute to their full potential.” While there is considerable professional debate among management theorists on the relationship between an inclusive organizational culture and organizational effectiveness, the need for partnering and working collaboratively outside traditional intelligence confines is extremely relevant to operating in a dynamic environment. Mobilizing support across a broad set of organizations

and stakeholders will be contingent on the receptivity of such a message.

Perhaps more important than mobilizing is the need to sustain change initiatives over time. While many post-9/11 intelligence reformists decried the need for change by focusing on creating new organizations and systems, the focus of mobilization and sustaining change is truly on the intelligence professionals within the community. For example, the aftermath of the 9/11 attacks resulted in significant impetus to create the DHS and the DNI. While the efficacy of these organizations is beyond the scope of this paper and the creation of new organizational elements can serve to enact change, it is perhaps more important to recognize that transforming and professionalizing the workforce results in sustainable change. As one group of management theorists state,

Most leaders get it wrong. They think that organizational productivity and performance are simply about policies, processes, structures, or systems So when their software product doesn't ship on time, they benchmark others' development *processes*. Or when productivity flags, they tweak their performance management *system*. When teams aren't cooperating they *restructure* ... these types of nonhuman changes fail more often than they succeed. That's because the real problem never was in the process, system, or structure—it was in employee *behavior*. (Patterson et al. 2012, 13)

Much of the literature focusing on the successful employment of special operations overseas engaged in complex operating environments affirms this focus. Schultz identifies six critical factors for transforming intelligence within an interagency environment. A clearly defined mission, single organizational leads, and leadership are three factors critical to success. Of equal importance, however, are the necessity to build collaborative partnerships through the establishment of trust, imbuing a cohesive and transparent culture, and creating an organization that learns and adapts (Schultz 2020). To operate in the modern-day environment, intelligence professionals will have to adopt such an approach to mobilize and sustain change over time.

Dispersing Leadership

Hesselbeim's concept of dispersing leadership calls for a leadership approach that can adapt and evolve to meet the change and challenges that typify the operating environment. It requires that leadership and the workforce are comfortable operating in a complex and nonlinear environment. Operationalizing intelligence collection across the domestic and foreign elements of the intelligence enterprise will require leadership at all levels. It will also require a counterintuitive approach that has been prevalent in the US Intelligence Community, which has focused on overly centralized and rigid management structures and processes. As Schultz (2020, 183) further emphasizes, leaders "are successful not because they are

forceful, decisive, or charismatic. Rather it is because they build team systems that achieve successful outcomes by decentralizing authority and by empowering those closest to the fight." As intelligence collection activities and functions will reside at varying levels and organizations within the enterprise, a dispersed leadership framework that is supported by clear standard operating procedures, processes, and technology will enable the intelligence community to leverage collection across a broad set of stakeholders.

Conclusion

The issue of national and homeland security, intelligence, and law enforcement all function to mitigate threats against the homeland. The "threat" however has evolved significantly since the 9/11 attacks to where the US Intelligence Community is charged with assessing a spectrum of existing and emergent threats. Additionally, these threats are dynamic and shifting and can manifest themselves quickly. The community possesses significant intelligence collection capabilities that can be used to gain insight into the nature of these threats. As currently postured, however, intelligence collection is still largely confined to its stovepipes. More importantly, this paper postulates that a true *Integrated Collection Management* approach is not being optimized for because of the nature of these stovepipes and because a key gap exists between bridging the domestic and foreign elements of the intelligence community.

Operationalizing intelligence collection that bridges the domestic and foreign divide is necessary to meet an adaptive and complex operating and threat environment. In terms of environmental scanning, the key issues that will face a new intelligence collection enterprise are information overload and horizontal integration to create synergies between the various collection INT-stovepipes and organizations. While these two issues might be the most intractable facing intelligence collection, they are not the only ones. The paper has not explored the many other issues, such as intelligence oversight, legal reforms, technologies, and processes, that would be necessary to develop an integrated approach to intelligence collection. This paper has also not rec-

ommended the form of an organizational bridging function. These are areas for further research, with the priority being to address the key question: "In what form will this organizational element look like and precisely what authorities will be commensurate with such organization?" Without first addressing the conceptual approach, "reform" will just add another organization to an already bureaucratized community. The key take-away, however, is whether such a conceptual approach for operationally bridging intelligence collection across its domestic and foreign intelligence characteristics is a valid one. In an age of complexity where issues and threats manifest themselves quickly, this issue should be explored further.

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Wrangling Stochasticity & Deconstructing Dimensionality: An Illustration of Fractals in Discursive Spaces

Dr. Douglas Rose

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Strategic practitioners and analytic methodologists actively involved within cyberspace management, defense, and manipulation require an exceptionally refined mastery of concepts associated with specific approaches in order to effectively parse recommendations, actions, and other related outputs. This implies the presence and value of physical and cognitive dimensionality. Specific to this growing awareness of dimensionality as it relates to data across a myriad of channels and communities resides a need for development of awareness of specific spaces,

how they align with parallel instantiations of information due to their shape, and how their temporally-appropriate abductive to deductive span contributes to the development of hypothesis and theory. Guiding any cohort to think in this way requires an understanding of a virtual system of systems and an appreciation of how specific shapes and spaces might represent a comfortably conjoined path within an emergent methodology.

Targeted research regarding threats within the cyberspace domain reveals an enterprise diluted primarily

by excessive lexicon development and over-mathematization of semantics by those charging toward adoption of Artificial Intelligence (AI) and machine learning (ML). These observations are the genesis of this piece. Heavy emphasis on the intersection between applied complexity science, existing dimensionality and its reduction, and slices of the laws of thermodynamics pushes this work radically past *a priori* publications mostly confined to a narrow relationship between strictly linear, hierarchical models designed to manipulate massive amounts of data.

The continuation of legacy logic dependent on concrete, almost zero-dimensional approaches and attitudes surrounding the defense of cyberspace does nothing to advance the discipline and execution of analytical activities in support of virtual instantiations on a micro scale. This discussion depends on the assertion that specific instantiations of structure can be abstract in the sense that they are boundaries of a theoretical plane of scientifically supported process and physical existence, and real in the sense of their reliance on hard and complexity science. The self-organizing nature of complex adaptive systems (CAS), intricacies involved with dimensionality reduction techniques, the flexibility of fractal geometry, and specific intersections related to the second law of thermodynamics drive this study toward a designation of a real, virtual assembly. This approach forces adoption of a nonlinear abstract as a staple of any analytic activity that might benefit from temporally based spaces and shapes since there is no model to abide

by in all circumstances, only a focus on the thing itself. These are called profiles (Mitchell 2009, 101). This is a delineation of metadata selection, an illustration of the appropriate virtual structure, and an approach to designation of microstates.

One of the standard approaches to complexity science assumes that there are modulators in the system to the n th degree, while most observations are only aware of a limited portion at any one time. Variances in meaning, relevance in time, and the ever-expanding volume of information in a virtual domain require concessions that n -dimensions are directly relevant (Jacobson 1967). This is mass in an analytic sense, which helps us argue for the presence of dimensionality—however reduced—on the road toward acceptance of its reality.

This is not another attempt to address the broad series of discussions surrounding usefulness and selective applicability represented by both the community and concept of big data. Rather, this is a measured series of distinctions that represent and dissect the intersections between portions of specific concepts in order to demonstrate the rigorous characteristics of certain abstracts, broaden awareness across multiple dimensions of information-based reality, and drive human-oriented, repeatable containerization of situationally-oriented data and information. The resultant output is an assembly of phenomenological, scientific, and philosophical methodologies in support of cyber analysis designed to achieve a natural beginning of an invocation of the

continuing need to demonstrate the fluidity of multi-dimensional, approaches to virtual structure. This means that both the understanding and the metaphysical indeterminacy (Sennet 2012) related to cyberspace are likely underdeveloped. If one considers this hierarchy to be a valid instantiation of an information system, then there also needs to be a concession that the placement of that label within any process and its dependence on time-based dimensionality results in structured representations of relationships. These are fractals.

Cyberspace treats structure as the totality of quantifiable relationships among the components that comprise it (Allen, Stacey, and Bar-Yam 2017), and fractals, when considered inert containers for what might be ascribed to them (Chettipramb 2005), offer several extra-disciplinary precedents when attempting to extract meaning from spatio-temporal transients of events (Sulis 2019). There is no specific assertion of a specific kind of shape that qualifies for the fractal label, as they can be any geometric object, and the concept of shape does not determine behavior of all parts of a system. Fractals' ability to help us see the world qualitatively (Chettipramb 2005), given their linkage between genesis and nonlinear optimization during any analytical effort (Fellman 2014), naturally results in a profile as an output. The resultant profile—that which embodies data, not a model—relies on nonlinear aspects that are neither learning nor analysis on their own as much as they are associates of those processes. Approaching the formation of a center in this way requires a realiza-

tion that an entity dependent on a hierarchical manner shrinks any disassociation between nonlinear dimensionality reduction and complexity.

Borrowing directly from physics, various discussions about spaces take several forms in the existing literature. Allowing such a construction within a chosen space, in particular the loosest portion of space that is cyberspace, merits mention of the notion of discursive spaces given their dynamic representations of qualitative dimensions and data (Maciag 2018). The discursive space is not a separate system, but one that emerges from one in order to allow gathering of specific knowledge about it. These are of value because they allow for emergent phenomena due to their supervenience and reliance on organic complexity. Thus, they make it possible to visualize parallel coordinates as a dynamic space with arbitrarily chosen dimensions built through qualitative analysis and an ability to sustain open dynamic systems.

This assumes an architecture representative of some changing connectivity of patterns over time (Allen, Stacey, and Bar-Yam 2017) and the presence of a system that can be partitioned into independent subsystems without forcing their closure. Complexity science embraces this openness when it comes to application and development of new inroads to understanding and theory development. While the same irreducible representations might end up as a linear combination of induced characters, this structure is representative of heterogeneous layers and a repeatable process, which equates it to a complex

and nonlinear hierarchical relationship. This is worth mentioning because as dimensionality is reduced and levels of abstraction naturally increase, linear approaches become severely restricted as more data is removed.

Given that elements of thermodynamics are present in both the information domain and the resultant system that is the center of some sort of analytic focus, as suggested here, thermodynamic depth helps us define the benefits of borrowing some of these concepts. In this way, such depth is the most plausible scientific path leading to the thing itself (Mitchell 2009); that path is the movement toward shaping an implex state accompanied by a general rise in systemic entropy and its relation to the amount of complexity at hand. Since more complex items are harder to construct, striving for emergent simplicity in this way folds itself into any analytical process designed to engender the familiar based in a systems of systems approach through identification of a center of initial focus. One does not have to measure a construct to use it, and the data science and mathematical elements of this profile are designed to unemotionally move and construct representative fractals within discursive spaces.

While the linkages between fractals and information salience are developing, the relationship between meaning and spatio-temporal transients of events suggests connectivity between abstract shape and value. While these are geometric standards, fractals represent a self-organized portion of their

host system so the designation of an abstract center is not an overextension of the latter's previously accepted function. These traits represent the best nexus between the choices above, specifically the fractal designation and application of nonlinear constructivism. This means that comparison and inclusion as done here, specifically the linkage between fractals and discursive spaces, is scientifically correct.

This approach is not a blind adherence to such connections despite such a fit, as any study that ignores the risk of failure deserves the designation of a philistine undertaking. Even if this comparison introduces an off-ramp to more extensive discussions exceeding the limits of this summation, there is an undeniable connection to complexity and CAS, and an unrelenting validity in both complexity science and extractions from the second law of thermodynamics. All of which—as general premises—are accepted ingredients within national security circles.

The nondeterministic nature of this approach reveals itself through its ability to let complex systems continue their behavioral momentum. This means that it would be difficult, if not disciplinarily inappropriate, to expect determinism as the correct output as any precondition other than situational connectivity. The resultant state is nondeterministic since there is no effort to shift the entire system or predict future states, as this methodology is not broadly aimed at supervising a system. While the methodology here is scientifically valid, the treatment of it as a nonlinear

hierarchy is new, and therefore reflective of the emergent complexity label.

As an effort to illustrate such potential, the following list of key findings serves to justify and advance the profile offered by this study:

- The intersections between information theory, linear approaches, and nonlinear approaches are precisely separated, and the advantages of moving deeper into nonlinear construction appear well poised to fill that gap.
- Cyberspace is a complex, dynamic system, at times representative of emergent simplicity and at other times representative of emergent complexity.
- Hierarchical relationships transcend the presence of dimensionality, measures of entropy, and the application of nonlinear approaches.
- Integrative complexity and the laws of thermodynamics maintain an open nature, and each has a broad history of application among emergent theories specifically designed to not limit future theory development.
- Fractals are indicative of exactly the type of progressive shape required to designate a center within the information domain and they assist in qualitative organization.
- Analytic techniques traditionally depend on linear approaches but suffer significant disconnects when involved with higher dimensional environments.

- The proper identification of an analytic center requires movement toward an implex state.
- Discursive spaces purposely allow for selective knowledge integration within a system.

Selecting referential processes from the bounds of normal within the second law of thermodynamics is not a biased inclusion since there is no assertion that it can or should represent a control theory. Select portions of the second law are used as formation for this approach and purposeful control would result in a reversion to linear boundaries. Such an approach has two implications; first, generation of a higher construct is a physical output key to advanced analysis and second, the de-evolution of that construct when time no longer situationally provides value is proof that this construction can be reversed on the path to theory generation.

Absent confirmation of acceptance, this study resides specifically in the metaphysical, while advancing several lines of blended thought seeking to discard binary categorization. This is not a replacement for reality, nor is it a suggestion that such a radical move supersedes appropriate technical development; such mechanical design is the next logical step, even though the essence of this work represents some distance from full-on automation. The unpredictable nature of human ability and the blithe acceptance of those machine outputs is a dangerous trend within the tradecraft of analysis and any discipline that any structured examination touches.

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Book Review: *Mindf*ck, Cambridge Analytica and The Plot To Break America*

*Mindf*ck, Cambridge Analytica and The Plot To Break America* by Chris Wylie. Random House, 2019. ISBN 978-1-9848-5463. 269 pp., \$28 (US).

The top topics across today's cable news scoreboard routinely feature impeachment, data breaches, sex scandals, or crimes by politicians, all creating fertile ground for profitable crops from publishing insider perspectives. *Mindf*ck* follows the recent trend paved by volumes like *Fire and Fury* [Trump], *A Warning* [Trump], *Targeted* [Cambridge Analytica], or *Holding the Line* [Secretary of Defense], which all race to prove their worth through distinct viewpoints away from the mainstream media's cameras. Christopher Wylie succeeds in delivering his viewpoint, only his viewpoint, and nothing but his viewpoint throughout the entire piece. Although departing two years before becoming a whistleblower, Wylie helped found Cambridge Analytica (CA) despite publicizing UK campaign finance and US Foreign Agent Registration Act violations. *Mindf*ck* depicts Wylie's journey from a young Canadian political staffer to morally compromised data analyst. The guilt arises from his creating the methods used to scrape and analyze personal data from social media sites, only to realize he lacked any authoritative say on data usage. An interesting perspective on how data analysis techniques can bite the wielder shows modern networks as not working with simple tools, but behaving more like snake handling. Lacking any reference sources other the author, *Mindf*ck* reads quickly and should be a staple for anyone working with big data platforms who does not understand their potential impacts.

As a memoir, Wylie does not present any central thesis and splits the work roughly chronologically into three parts: before, during, and after CA. A bifurcated central theme addresses the importance of standing out as an individual and the tendency for events to happen to Wylie rather than because of him. The earliest section describes Wylie's physical handicaps and early analytical ambitions. After a 2011 Parliamentary election, Wylie leaves his Canadian Parliament staffer job to pursue a fashion design PhD at the London School of Economics. While in the UK, he works with the Liberal Democratic party, but after a massive 2013 loss accepts contract work with the defense-based Strategic Communication Laboratory (SCL), which specializes in information operations. SCL births CA as their US subsidiary and joins with their associated analytical missteps, which leads to Wylie's 2014 departure. The book's remainder focuses on Wylie being "desperate to find something to do where I knew I would be contributing good to the world" and his resentment towards a lifetime Facebook and Instagram ban.

Wylie's journey begins with his difficulties adjusting to Canadian primary and secondary schools due to a wheelchair-confining handicap and his complete disregard for any dress code. The analytical skills leading toward CA began first through his association with the Canadian Liberal Democrat Party and later as a 2008 Obama campaign data consultant. Afterwards, having discovered how micro-targeting data can yield massive election returns, he returned to Canada to find the traditional party structures uninterested. In 2011, he moved to England and intended to study law at the London School of Economics, later changing to a fashion design PhD. Originally, only Wylie's side job was in politics and assisting the UK's Liberal party. Wylie leaves the UK Lib party when they fail to implement his ideas, like the Canadian Liberal Party. The opportunity opens for the position at SCL as a data analyst. His first SCL task is to use micro-targeting to influence African elections. Wylie's own personal prejudices emerge early and continue throughout. "Suddenly, I was surrounded by a team of impeccably dressed, blazingly smart, impossibly quirky individuals. And Nix was the ringleader, the grinning, soulless salesman who didn't understand anything we were doing" (51). Alexander Nix was the SCL director who paid for data, delivered contracts, and launched CA as the CEO.

From Wylie's perspective, CA's indiscretions began with Trinidad and Tobago government research contracts that allowed social media scraping from unsuspecting citizens. Steve Bannon enters the narrative from stage right, hiring SCL for work similar to their African success with different data during several minor US political races. SCL's early success leads to a \$20M payment if they can continue to produce results. Money in their pockets leads to procuring data from individuals like Dr. Aleksandr Kogan. Dr. Kogan was a Cambridge University professor researching Facebook who provided data for social networking studies under an agreement that stated individuals who approved Kogan's app allowed access to their connections' data simultaneously. An average Facebook user has 150-300 friends, so if only 1,000 people agree to usage, on average, 150,000 profiles will be provided. The \$20M advance allowed CA to create an survey app that paid users \$1, estimating that if one million people signed up, detailed information on up to 300,000,000 people would be available.

CA's 2013 founding was followed by their 2014 app launch, which collected massive amounts of Facebook data. All collected data was technically approved through user agreements and a Facebook contract with no constraints on how the data could be used. As CA sped up, Wylie's problem appeared not in data procurement, but to whom the analyzed results were sold. He describes the numerous customers who fell below his personal standards as "a revolving door of foreign politicians, fixers, security agencies, and businessmen with their scantily clad private secretaries in tow" (133). Wylie's 2014 CA departure appears to have occurred before the more egregious and illegal acts were committed by CA. CA's 2018 downfall leading to bankruptcy and dissolution was not about privacy vio-

lations through data collection, but about a failure to obey UK campaign finance laws limiting party contributions to £100,000. In the US, CA's legal downfall was because they failed to disclose foreign associations under the Foreign Agents Registration Act. After Wylie's departure from CA, the book's remaining 100+ pages address his thoughts about society, data, and integration philosophies and can be skipped by most readers. The post-CA time mainly features attempts to monetize personal CA experiences without sacrificing his own integrity or violating their comprehensive Non-Disclosure Agreement.

*Mindf*ck's* most glaring omission was the complete lack of any referenced source other than Wylie. Wylie extensively quotes people, describes meetings, and relates events, all without a footnote, endnote, or any other attribution. The only thing preventing this from being shelved as fiction is Wylie's word is the other CA whistleblower, Britney Kaiser, who used extensive endnotes for *Targeted*.¹ The second problem emerges from Wylie disparaging those he dislikes based on their fashion sense and sexual preferences. For example, Wylie describes a first meeting with Steve Bannon as "unshaven, with greasy hair and that layer of grime you get from a transatlantic flight. His eyes showed flecks of bright red that matched the web of rosacea on his skin" (59). Those receiving favorable reviews included Matt Rosenberg from the *New York Times*, whose descriptions are more positive. "Completely bald, slight beefy, and apparently divorced, he was quite fetching" (197). These fashion comparisons are then matched to extensive conversations about sexuality from "in his full homosexual plumage" (163) to "businessmen with their scantily clad private secretaries in tow" (133). After gathering the world's personal data through CA's actions, Wylie commits to offending everyone else during his revelations.

*Mindf*ck* offers an interesting, if unsupported, read into a previously headline topping issue. Skipping this work might be preferred, but reading alternative viewpoints can help provide healthy analytical perspectives. Wylie insights are repetitive, his rants pedantic, and the only area routinely addressed is why straight, white men with bad fashion sense are successful. Understanding social media data and analytic solutions may be the most critical field for the next twenty years and everyone should comprehend the potential implications. Microtargeting's success due to marketing and elections via social media should be understood viscerally and intellectually by every intelligence professional. If you cannot find a way to another book on this subject, Wylie's *Mindf*ck* might be an acceptable substitution.

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1 Britany Kaiser, *Targeted* (New York: HarperCollins Publishing, 2019).

Book Review: *Because We are Human: Contesting US Support for Gender and Sexuality Human Rights Abroad*

Because We are Human: Contesting US Support for Gender and Sexuality Human Rights Abroad by Cynthia Burack. SUNY Press, 2018. ISBN 978-1-43847-0139. 294 pp., \$8.59 (US).

September 10, 2020

Cynthia Burack's book *Because We Are Human: Contesting US Support For Gender And Sexuality Human Rights Abroad* (2018) is an essential contemporary book for scholars, students, and practitioners who address LGBTI rights and international affairs. Burack provides a unique normative political theory perspective on US foreign policy and sexual orientation and gender identity (SOGI). Often unknown to the general public, US diplomats advocating for SOGI human rights globally and their work are meticulously investigated by Burack. Currently, the United States provides the Global Equality Fund, the single largest source of financial support for LGBTI civil society worldwide.¹ From Uganda to Chechnya, this fund offers critical support to local human rights activists carrying out the dangerous work of advocating for SOGI human rights in their countries. Burack demonstrates how the US has become the biggest global player for SOGI human rights. This is remarkable, given the continued contestation domestically in the United States for LGBTI equality. It is also notable in that Burack reveals how some LGBTI activist themselves, as well as groups on the political left side of the spectrum, criticize American support for SOGI human rights globally.

American Christian Evangelicals are known to censure US government support for LGBTI rights; this criticism from the right wing is commonly reported on in the news.² By contrast, critique of foreign aid from the left wing of the American political spectrum is often much more subtle and less analyzed. Burack addresses this gap and investigates the deep skepticism of international donor aid that dominates contemporary academic human rights literature.

Burack coins this camp as the "humanist academic left" (3). She analyzes how human rights international studies literature centers upon tropes of human rights as a "western concept" and upon debates of universalism versus cultural relativism.³ Rarely does a contemporary human rights book cover the endeavors of

1 US Department of State, Bureau of Democracy, Human Rights and Labor, *Global Equality Fund*, accessed January 24, 2020, <http://www.state.gov/globalequality/about/index.htm>.

2 Ongoing editorial column on "Uganda Kill the Gays Bill," *Huffington Post*, 2009–2020, <http://www.huffingtonpost.com/news/uganda-kill-the-gays-bill/>.

3 Mark Goodale and Sally Engel Merry, *The Practice Of Human Rights: Tracking Law Between the*

human rights diplomacy. Human rights practitioners and LGBTI advocates may take it for granted that individuals from the American left-wing political spectrum advocate for support of LGBTI civil society in places such Saudi Arabia or Pakistan, or other places where sexual minorities face the death penalty. However, Burack addresses the fact that many scholars and leaders from the humanist academic left reject universalisms, if and when these principals are perceived as usurping local beliefs.

In between the lines of her analysis, Burack uncovers the wide chasm between theorists of human rights and practitioners in the field. Critiques of the implementation of human rights are important for programmatic improvement. Burack provides a close analysis of what she terms the “internal” critique of SOGI human rights (159). She defines “internal” as scholars who are well disposed towards LGBTI equality and “generally concerned about the well-being of those who engage in same-sex sexual relations” (159). Mainly derived from the political left wing, these individuals and organizations have been the foundation for private philanthropic funding in the US and the center point for LGBTI-equality advocacy work. And yet, Burack highlights that people from within this internal part of the movement have become some of the most vocal critics of human rights international programs focused on SOGI.

International humanitarian aid is also heavily condemned from the right wing of the political spectrum. Burack provides a unique comparative analysis of these two opposite sides, juxtaposing how these conflicting political ideologies surprisingly converge ultimately to oppose SOGI human rights diplomacy. Burack demonstrates how conservatives decry American promotion of SOGI human rights as hypocritically perpetuating American immorality. It is challenged as a political calculation to solidify support of LGBTI people and as a form of US imperialism that forces people internationally to accept unwanted American gay rights norms. On the other side, Burack presents the left resistance to SOGI human rights work. She reveals how the progressive left denounces SOGI human rights diplomacy also as hypocritical, where US officials intervene in the domestic affairs of other countries with the potential result of perpetuating discrimination and oppression of LGBTI persons. The left also contends that SOGI human rights diplomacy is a political calculation intended to attract the support of LGBTI people and distract them from racism and the failures of the government to deliver other progressive goods. Finally, Burack presents how arguments from the left wing denounce SOGI human rights work as a mere excuse of US government officials to intervene in the internal affairs of other countries, with the real ulterior motive of enhancing US political and economic power (88). By clearly documenting these arguments side-by-side from the opposite ends of the political spectrum, Burack provides unique evidence for an unsettling conclusion: both sides of the aisle in

Global and the Local (Cambridge, UK/New York: Cambridge University Press, 2007), 7.

US politics ultimately exhibit similar skepticism of US international promotion of SOGI human rights. This evidence is both startling and important for reflection by practitioners of theorists of human rights diplomacy.

Burack astutely explores the tension between the theory and practice of global human rights work. At one point, she focuses on the word “intervention” from a human rights practitioners’ point of view versus an academic’s vantage point (159). The practitioner perceives intervention as programmatic: how to work with local human rights groups, how to develop a plan for implementation, and how to demonstrate programmatic sustainability. By contrast, the word “intervention” has an entirely different meaning in contemporary academic literature. Intervention conjures negative thinly veiled references to colonialism and imperialism in most human rights theoretical scholarship. The international development aid industry has been heavily criticized by international affairs scholars. Beyond the vocabulary, the production of international humanitarian aid is met with suspicion at best and with utter abhorrence in some journals and academic studies.⁴ Burack navigates this space brilliantly. She speaks to her academic peers and colleagues, while grounding her research in how theoretical critique potentially impacts foreign policy development related to SOGI rights.

Burack highlights a critically important weakness among many advocates, and the American public in general. That is, the misconception of “the State” as a big black box and monolithic presence. Many advocates conceptualize the government as only a handful of people at the top surrounding the president. Some do not know, or understand, how to advocate and work with diverse offices of the executive branch responsible for human rights and LGBTI concerns. And yet, there is a wide depth of work that the US government engages in concerning SOGI human rights. Burack adds to the developing scholarship that recognizes the critical work of insider government allies.⁵ She interviews key personnel within the Obama Administration, such as Ambassador Daniel Baer, who served as the State Department’s Deputy Assistant Secretary for the Bureau of Democracy and Human Rights and Labor and Ambassador to the Organization for Security and Cooperation in Europe. Ambassador Baer helped craft some of the first LGBTI foreign policy directives from the United States when Uganda proposed the death penalty for homosexual acts in 2009. Later, Ambassador Baer was a key official in drafting Secretary of State Clinton’s pivotal speech on International Human Rights Day in Geneva in 2011 when she proclaimed, “Gay rights are human rights and human rights are gay rights.”⁶ As an openly gay US am-

4 William Easterly, *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good* (New York: Penguin Books, 2007).

5 Lee Ann Banaszak, *The Women's Movement inside and Outside the State* (Cambridge, UK/New York: Cambridge University Press, 2010).

6 Hillary Clinton, Address in Geneva on International Human Rights Day, December 6, 2011, <http://>

bassador, and insider ally, Ambassador Baer is an important example of a social movement actor who works towards LGBTI equality from within the state. More broadly in the human rights practitioner field, worldwide diplomats observe trials of political prisoners, deliver seed funding to LGBTI civil society, and provide emergency funding for LGBTI persons in danger.⁷ This work rarely makes the news or rises to the focal point of academic analysis. It is in part marred by the fact that governments are the biggest global human rights abusers. Nevertheless, most liberal democracies include human rights in their foreign policy pillars. This lack of awareness of the complexity of the vast federal government and work of diplomats abroad in support of SOGI human rights is a significant problem in the academic literature and in the advocacy community. This disconnect is one factor that hinders garnering support for SOGI human rights diplomacy.

The organization of the book is concise, clear, and highlights the most important issues in contemporary SOGI human rights diplomacy. The book gives the historic trajectory of SOGI human rights in US foreign policy. Burack begins her text in the 1990s, juxtaposing the Department of Defense's "Don't Ask Don't Tell" with the blossoming of LGBTI groups, including organizing of LGBTI federal employees and the first US government-sponsored projects to assist LGBT people in other countries. Burack deems 1999–2011 to be the early period of US government policy supporting LGBT rights. She bookends this period in 2011, as this is the year that President Obama released a memorandum for all heads of departments and agencies: "International Initiatives to Advance the Human Rights of Lesbian, Gay, Bisexual, and Transgender Persons."⁸ The book then turns its focus to Secretary of State Hillary Clinton's leadership of the State Department, and specifically her remarks made in Geneva on International Human Rights Day.⁹ As a pivotal speech that marks the formal commencement of SOGI human rights in US foreign policy, and the basis for the book's title, this speech is also the target of much criticism and scrutiny in academic analysis. Burack provides a unique examination into how this speech converged the political left wing and right wing in subsequent criticism of the Clinton's policy change to address SOGI concerns internationally. Decrying hypocrisy from both sides, critics began condemning

translations.state.gov/st/english/texttrans/2011/12/20111206180616su0.4842885.html#ixzz3KP317fjN.

7 US Department of State, Bureau of Democracy, "Human Rights and Labor," accessed January 22, 2020, <https://www.state.gov/j/drl/>.

8 White House, "International Initiatives to Advance the Human Rights of Lesbian, Gay, Bisexual, and Transgender Persons," Presidential Memorandum—International Initiatives to Advance the Human Rights of Lesbian, Gay, Bisexual, and Transgender Persons. Memorandum For The Heads Of Executive Departments And Agencies," December 6, 2011, <https://www.whitehouse.gov/the-press-office/2011/12/06/presidential-memorandum-international-initiatives-advance-human-rights-l>.

9 Clinton, Address in Geneva on International Human Rights Day.

this new policy before ambassadors and diplomats had even generated policies and programs to support local LGBTI equality work in foreign countries.

After addressing Clinton's speech, Burack then goes into the commitments and subsequent programming related to SOGI human rights work internationally. Beyond government official reports, there is very little research published on US policies and programs promoting SOGI human rights globally. Thus, this book presents a new and important clearinghouse of information for scholars interested in US government policy for SOGI human rights globally. Burack ends the book with an argument for advocates to be open to US government involvement in SOGI human rights and international affairs.

To conclude, this book is important for scholars and practitioners seeking to raise awareness of LGBTI rights in foreign affairs. While right-wing condemnation for SOGI human rights is well documented, it is rare for the academic literature to examine the skepticism that pervades the theoretical human rights literature. Both sides have played an unexpected role in eroding support for international human rights engagement. Upon reading this significant book, the reader is left with the chilling question: if the political right wing and the political left wing equally criticize SOGI human rights foreign policy, albeit for very different reasons, who in the American electorate remains to support international SOGI human rights engagement? What may be lost or is the net result of disengagement from SOGI human rights policies in international affairs? Raising these contemporary debates of cutting edge SOGI human rights diplomacy makes Burack's book an imperative contemporary analysis for researchers and scholars of international affairs.

Dr. Elise C. Rainer

Book Review: *The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics*

Ben Buchanan, *The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics*. Harvard University Press, Cambridge, MA, 2020. ISBN: 9780674987555. 319 pp. About \$27.95

In his book, *The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics*, author Ben Buchanan attempts to contextualize modern-day cyber-attacks within the domain of geopolitics—a daunting task, as the cyber domain is inherently untrustworthy, making definitive proclamations suspect. That said, by applying the statecraft concepts of signaling and shaping, Buchanan builds a convincing case using practical comparisons to espionage and conventional warfare, underscoring the conclusion that cyber-attacks are not random acts of ever-increasing destruction; instead, they represent a conscious cyber struggle between states. In other words, cyber-attacks have become tools for the policymaker's signaling and shaping operations. "This is the new form of statecraft, more subtle than policymakers imagined, yet with impacts that are world-changing" (3). To this end, the author provides a convincing argument for cyber-attacks as tools of state power, rather than the random acts of criminals.

As the world becomes increasingly connected, dependence on information communication technology has become paramount to nearly every facet of modern society. Correspondingly, the complexity that characterizes the cyber milieu facilitates misunderstanding and fear as vulnerabilities are made apparent. As such, any event that destabilizes the cyber ecosystem immediately captures the attention of news media. Fear and sensationalism have prematurely concluded the inevitability of a catastrophic cyber event. To this extent, "while policymakers and scholars understand what nuclear weapons and tanks can do, the possibilities, pitfalls, and processes of hacking missions are comparatively opaque" (8).

Buchanan seeks to bring clarity to the subject by challenging the theoretical conclusion that cyber-attacks must end in a digital Pearl Harbor. Drawing on real-world events, Buchanan deconstructs the most significant cyber-attacks from the United States, Israel, China, Russia, Iran, and North Korea, analyzing their intent, significance, and meaning to the broader global community. Buchanan chronicles the transformation of cyber-based espionage in the form of passive collection, wherein the discovery of the operation equates to mission failure, to overt cyber-attacks conducted as a declaration to the world, where amplification is the intended end-state.

In an unprecedented collection, Buchanan leverages a wide variety of sources, including recently declassified information, to gain insight into state-spon-

sored cyber-based operations, thus unraveling the seemingly anarchic nature of cyber-attacks and opening a new window into this phenomenon.

The book begins by exposing the profound cyber-based espionage advantage of the United States, and more broadly, the Five Eyes member nations. The enormity of the advantage resided in keeping the innovative tools, techniques, targets, and coverage a secret. Buchanan then unveils how these advantages were used and, more significantly, how they came to light. The chapters move quickly one by one as he uncovers the seminal events of technical superiority and subsequent exposure.

As espionage, in any form, does not survive the light of day, states moved quickly from passive collection to more aggressive efforts in the form of cyber-attacks and eventual disinformation operations in combination. Importantly, Buchanan details the differing intentions among states and how these newfound capabilities are leveraged to their end. Buchanan does an expert job weaving the transition from shadows into the new normal of cyber struggle. The leaks of Edward Snowden combined with the reach of WikiLeaks, the theft of tools by the Shadow Brokers, and the cunning Russian disinformation operations turning the news media potentially into an unwitting catalyst, all served to expose the advantages maintained by the US and the Five Eyes nations, and in doing so, irreparably removing them. The resultant cyber awakening has brought new, more unpredictable, players into the game, with the promise of more to come. Meaning that cyber-attacks, intended or not, have become the “new normal in geopolitics.”

This book is exceptionally well-researched and approachable for a broad audience. The theme is easily understood and consistent throughout the well-written chapters. The case selection is excellent and profound in its ability to highlight critical concepts within the text. Anyone interested in international relations and curious about the role that cyber may have within it should read this book. This book is the first of its kind in both depth and breadth, bridging the gap between international relations and cyber-attacks.

The primary argument of the book is that cyber-attacks are the new normal of geopolitics. The author does an excellent job confirming his assertion by detailing the world’s most significant cyber-attacks. However, a simple, yet powerful example of confirmation would have been the inclusion of the 2015 agreement between China and the United States to stop hacking. This agreement would have added gravitas to Buchanan’s central theme that cyber-attacks are a normal part of geopolitics, especially as the results of the agreement were met with a sharp decline in cyber-attacks against the United States originating from China. That said, its inclusion would not have changed the final analysis, which remains on point.

The Hacker and the State: Cyber Attacks and the New Normal of Geopolitics is not a technical book. Those seeking to understand the nuance within the software application code of the greatest collection of hacking tools ever assembled will be

disappointed. The book is, however, an excellent addition to the literature of international relations, adding the much needed and often misunderstood cyber-based component into the conversation. Buchanan frees cyber-attacks from the traditional cybersecurity paradigm, placing it firmly within the context of geopolitics. In doing so, Buchanan brings a fresh perspective to the mystique surrounding modern cyber-attacks moving away from the fear of a cyber Armageddon toward the practical struggle between states for power and influence. Impeccably researched, this book is a must-have for international relations students, senior policymakers, or anyone seeking to understand the role and current trajectory of cyber-attacks within the field of international relations.

Al Lewis

American Military University

Book Review: *The Innovators*

Walter Isaacson, *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*. Simon & Schuster, New York, NY., 2014. ISBN: 9781476708690. 542 pp. About \$20.00.

The *Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*, by Walter Isaacson provides a descriptive and expansive look into the causal forces that created the digital revolution. While modern society often takes for granted much of the conveniences afforded by the digital age, Isaacson's insightful examination of how these conveniences were realized provides us with a deeper understanding of the innovative process and how the creation of these goods and services were the result of evolutionary steps realized over several decades. An examination of history and of the key actors that played a role in realizing the digital revolution, however, is more than a recitation of facts and timelines. In this respect, Isaacson's seminal work into the evolutionary and innovative process of the digital revolution reveals several truths for creating and sustaining innovation. These key insights are also directly relevant to posturing national security and strategic intelligence endeavors to meet the modern-day challenges of the global operating environment.

The book introduces the novel concept of *poetical science*, which is the intersection of the power of imagination and the realm of the possible coupled with the logic of science and engineering. Countess Ada Lovelace (1815–1852), the child prodigy of the romantic poet Lord Byron, inherited the poetical love of imagination and metaphors from her father and a deep appreciation of science and mathematics from her mother's influence. Her ability to conceptualize possibilities and apply them to a scientific expression resulted in working with an early inventor, Charles Babbage, to envision an analytical engine capable of processing complex mathematical equations. Lovelace conceptualized the ability of programming Babbage's engine not only to perform a discrete task, but also to perform several tasks through the use of punch cards, which up to this point had been used in the textile industry to automate production. In other words, she incorporated a practice from another industry and conceptualized the ability to program a machine through implementation of precise instructions complete with sub-routines to focus on tackling and processing several tasks. More importantly, she was also able to assert the ability to not only program mathematical concepts, but also the expression of symbols captured in logical statements—an early insight that would later become a core concept in the digital age. Her ability to fuse the abstract with scientific logic would become the basis of *poetical science* and a trait commonly found in future innovators. The ability to bridge the abstract with logical realities forms an essential component of national security and strategic intelligence—namely, the ability to

envision and formulate estimative intelligence within a framework of possibilities. In an increasingly complex operating environment, the ability of these communities to agilely function and address complexity is a critical and highly sought after skill. Another skill highlighted in Isaacson's book is the concept of collaboration to foster a creative environment. The creative capacity of team-based approaches versus the work of the solitary individual is identified as a key attribute to innovation. While Isaacson identifies and acknowledges cases of individual genius and the capacity to conceptualize future possibilities, he also emphasizes the inability of a singular approach to implement those concepts into action. The creative capacity that results from the free expression of ideas, brainstorming, and testing of hypotheses is highlighted throughout *The Innovators* as is how it led to the pioneering work in early computers and materials science to create the transistor and later the microchip. The key take-away for the national security and strategic intelligence community is the vitality of a collaborative and team-based culture, as opposed to relying on solitary experts. Isaacson's insights into Konrad Zuse and John Vincent Atanasoff effectively demonstrate the limitation of the solitary genius to effect broader change. In terms of national security and strategic intelligence, the collaborative approach has implications for establishing communities of interest, information sharing, and knowledge management—all key issues that continue to challenge the present-day community.

Closely tied to the ideal of establishing effective and collaborative teams is another foundational concept emphasized by Isaacson throughout his study of innovation. Equally as important to establishing effective teams is ensuring that the team is intellectually diverse by integrating different perspectives and specialties. The composition of the team matters. While the term “centers of excellence” may seem passé, *The Innovators* highlights the importance and vitality of establishing venues where interdisciplinary expertise can work and operate in a common area to exchange ideas and leverage expertise. Early collaboration between the US government and key centers of learning at Harvard, Princeton, the Massachusetts Institute of Technology (MIT), and the University of Pennsylvania during the Second World War led to significant advances in computer technology through the integration of visionaries, engineers, scientists, and management experts. When the nature of innovation shifted to the private sector after World War Two, the technological advances of Bell Laboratories, Xerox PARC, and Stanford Research Park—an early venue for academia and venture capital—are illustrative of these interdisciplinary venues. The implication for the US Intelligence Community, which is often typified by its stovepipes and cylinders of excellence, is clear. Ensuring and leveraging horizontal integration across disciplines can foster the innovation that is necessary to tackle a complex global threat environment. In this case, many of the findings from the 9/11 Commission and subsequent literature on intelligence reform are apropos.

On a more strategic level, Isaacson clearly illustrates the vision and realization of Bush's iron triangle of the military-industrial-academic complex. Vannevar Bush, a professor and later dean of engineering at MIT and an early inventor of an analog computer capable of solving complex differential equations, would later become President Franklin Roosevelt's top science advisor during World War Two and a key leader in mobilizing the Manhattan Project. He was also pivotal to establishing Raytheon, a large electronics conglomerate and fixture within the private sector and the establishment of the National Science Foundation, an independent US government agency responsible for fostering scientific research and education. The crossroads of the US government, the private sector, and academia remains a vital relationship that needs to be sustained. For the national security and intelligence communities, this relationship should remain an integral component of developing the next generation of security solutions to diverse and complex threats.

While team-based approaches, the integration of group diversity, and strategic organizational frameworks are effectively illustrated throughout Isaacson's work, *The Innovators* also highlights an important component of effective leadership. Consistently throughout his narrative, Isaacson examines the key relationship between the innovator and the actualizer. Whether in the combinations of Taylor-Roberts, Gates-Allen, Jobs-Wozniak, or Page-Brin, each of which went on to create ARPANET, Microsoft, Apple, and Google, respectively, the symbiotic nature of not only envisioning the realm of the possible, but placing that vision into effective practice is a key enabler of success. Conversely, he also identifies cases where notable advancements were conceived, but were poorly or not executed at all due to the inability of placing concepts into engineering or business practice. As he states, "great concepts are worth little without precision execution" (74). The perceived success of innovation is all for naught if it cannot be effectively fielded. In terms of national security and strategic intelligence, great ideas are simply that—ideas of no consequence if they cannot be actualized.

The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution is a compelling work that provides excellent insight into a highly technical subject. The kernels of truth contained in Isaacson's sweeping narrative provide several insights of relevance to national security and strategic intelligence issues. The relationship between creativity and collaboration reinforces the need for developing novel national security and intelligence approaches across the enterprise while operating in a complex environment. Closely related to this collaborative necessity is the imperative of integrating a diversity of intellect and perspective into team-based and community-based approaches. As evidenced by Isaacson's keen insight, it is also vital to effectively pair visionaries and deep thinkers with practical and product-oriented individuals to realize envisioned objectives. In other words, the successful realization of a vision is highly dependent on the ability to enact a plan. Additionally, on an organizational level, *The Innovators*

examines the productive synergy that can exist with effective collaboration between government, academia, and the private sector—a key lesson for the national security and intelligence community as they seek to adopt agile, relevant, and scalable approaches to unique security issues.

Lastly, Isaacson effectively weaves the key attributes of leadership that are necessary to operate in a complex environment while emphasizing the importance of perspective. The effective pairing of strategic leaders—the visionary and the focused doer—is an area that merits closer examination and hopefully will be the basis of future study. The innovators and visionaries that Isaacson identifies in his work, however, had two consistent leadership attributes. First, they knew their product and what it could deliver. They understood the relevancy of what their services could provide their customers and had a deep understanding of the steps necessary to create a usable service. Second, they were also cognizant of how to create and sustain effective teams. The effectiveness of these teams was framed by the free exchange of ideas that sought to establish the creative tension and integration of perspectives. The perspectives were also consistently supported by both the artistic and scientific interests—or *poetical science* that existed within these unique individuals.

James Burch, DM

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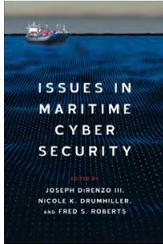
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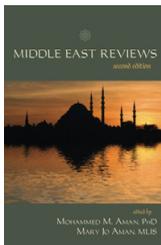
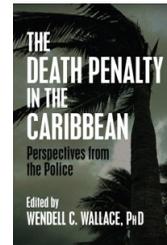


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While there is literature about the maritime transportation system, and about cyber security, to date there is very little literature on this converging area. This pioneering book is beneficial to a variety of audiences looking at risk analysis, national security, cyber threats, or maritime policy.

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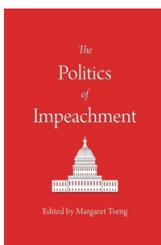
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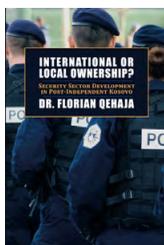
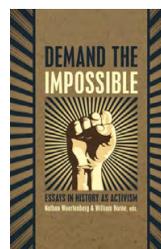


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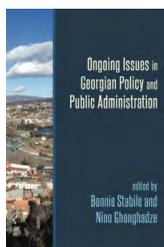
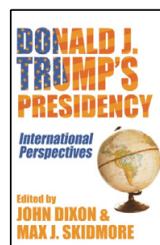


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