THE ASPEN INSTITUTE COMMUNICATIONS AND SOCIETY PROGRAM

Diplomacy in the Age of Networks

A Report of the Annual Aspen Institute Dialogue on Diplomacy and Technology

Richard Adler, Rapporteur

THE ASPEN INSTITUTE

DIPLOMACY IN THE AGE OF NETWORKS

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Washington, D.C.
2018

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Washington, DC 20037

Published in the United States of America in 2018
by The Aspen Institute

Printed in the United States of America

18/004

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This report is written from the perspective of an informed observer at the Aspen Institute Dialogue on Diplomacy and Technology. Unless attributed to a particular person, none of the comments or ideas contained in this report should be taken as embodying the views or carrying the endorsement of any specific participant at the Dialogue.

Foreword

When Marc Nathanson and I started this series of Aspen Institute Dialogues on Diplomacy and Technology it came from a conviction that the apparatus at the U.S. State Department, and frankly, the diplomatic tools of other countries, were outdated at best, and firmly mired in the past, at worst. Over the past decade, we have seen ambassadors tweeting, countries creating Facebook presences, and similar incremental advances. But a full embrace of the new technologies in the realm of diplomacy is still in the earliest stages.

This realization comes as the network form has become a dominant organizational form in the 21st century. More organizations are moving to some form of network structure, whether in business, military or civil society. Networks permeate borders, reach huge audiences instantly, and flatten lines of communication. They can be incredibly effective, e.g., in setting international standards, communicating grievances, but not always for good. Viruses also flow through networks, as do messages of hate speech and false or misleading statements. As in all advances, there are opportunities and dangers which must be sorted out by anyone in the arena.

Years ago, I co-authored a piece entitled, "Netpolitik: What the Emergence of Networks Means for Diplomacy and Statecraft" for the Aspen Journal of Ideas. It suggested that in a networked world, diplomats needed to understand and employ network principles. It followed the work of Anne-Marie Slaughter, Joseph Nye, and Jessica Matthews and others who had understood the broadening of powerful actors in the international relations field, and the new tools needed to influence them.

This report, following our Aspen Dialogue on Diplomacy and Technology for 2017, explores these very issues. How should leaders think about networks in the world of diplomacy and vice versa? What are network principles, and how does one employ them? What are noxious elements that can be spread more easily in networks, from viruses to memetic warfare? And how can diplomats ply their craft, asserting national interests in this new world of "netpolitik?"

Acknowledgments

I want to thank the Nathanson Family Foundation for its anchor funding of this series of Dialogues, and specifically Marc Nathanson, who has inspired others with his leadership on this issue. We thank Ambassador Christopher Hill and the Josef Korbel School of International Relations at the University of Denver for partnering with us again on this series. Thanks to Richard Adler, who added his own research to the job of writing up the conference in a concise and understandable manner. Thanks, too, to Vahaken Mouradian, Nathanson Fellow at the University of Denver, for editing a set of readings for the participants at the Dialogue. And thanks to Kiahna Cassell, Project Director, who ably brought this important project of the Aspen Institute Communications and Society Program together, as well as Tricia Kelly, Managing Director, who oversaw production of this report.

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The Aspen Institute
March 2018

Diplomacy in the Age of Networks

Richard Adler

Diplomacy in the Age of Networks

Richard Adler

> The Networks are the fundamental stuff of which new organizations are and will be made.
>
> *– Manuel Castells*

Introduction

In her 2017 book, *The Chessboard and the Web*, Anne-Marie Slaughter offers a visual comparison to illustrate two different ways of looking at how the world is organized:

> Think of a standard map of the world…showing the borders and capitals of all of the countries. That is a chessboard view. Now think of a map of the world at night, with the lit-up bursts of cities and highly concentrated regions and the dark swaths of rural areas and wilderness. Those corridors of light mark roads, cars, houses and offices; they mark the networks of human relationships where families and workers come together…this is the web view. It is a map not of separation, marking off boundaries of sovereign power, but of connection, of the density and intensity of ties across boundaries.[1]

Slaughter, who was formerly director of policy planning at the U.S. State Department and now is President and Chief Executive Officer of New America, describes the map view as emblematic of how diplomats and world leaders traditionally viewed their mission: to represent the interests of their nation against all of the other countries on the globe. In this classic "chessboard" view of international relations, "states are the 'dominant actors' in world politics and act as 'coherent units' or unitary actors; force is both usable and effective as a policy instrument; and military issues trump economic, social, and environmental issues in a strict foreign policy hierarchy."[2] In such a world, the primary role of a diplomat is "to negotiate agreements between nations."

Of course, a standard world map does not provide a full picture of how the world is organized. Over time, countries have created many international organizations—the UN and its many specialized agencies, the World Trade Organization, NATO, OPEC, OECD, the G8 and the G20, the International Monetary Fund, the European Union—that transcend national boundaries and play important roles in world affairs. Moreover, multinational corporations, propelled by global supply chains, global trade, global financial flows and global communications systems, represent powerful forces that often operate without regard for national boundaries. Beyond these political and commercial entities, there are many other forces that help to connect (or divide) people and shape world events: religions, languages, ethnic identities, professional affiliations, even sporting competitions such as the Olympics and the World Cup. And the rise of insurgent groups such as Al Qaeda and ISIS demonstrate how non-state actors can self-organize and operate across political boundaries to provide formidable challenges to the existing order.

As Slaughter notes, the key characteristic of all of these "web" phenomena is that they provide *connection across borders.* They are, in fact, different types of networks, which Slaughter describes as "the most important means of organization today." Many of these networks are non-technological, but technology has greatly facilitated the ability of individuals and groups to connect across borders, and has accelerated and magnified the power of all kinds of social and political networks. In particular, the Internet, which spread all over the world in the course of a few decades, has become a pervasive digital platform that dramatically lowered the barriers to creating or operating a [human] network on a global scale. For example, Facebook has more than two billion active users worldwide,[3] and is just one of many tools available for network builders.

Because of their importance, networks are the subject of a growing body of research that explores the ways in which they are structured and how they operate.[4] And in the past few years, studies have begun to appear that specifically address the implications of networks for the practice of international relations and diplomacy.[5] These studies explore the challenges that the proliferation of networks represent for the practice of diplomacy and try to identify how diplomats who understand the power of networks can use them to further their own goals.

Taking note of this shift, the 2017 Aspen Dialogue on Diplomacy and Technology (ADDTech) focused on the topic of "Diplomacy in the Age of Networks." Participants included current and former officials from the State Department and other government agencies, academics, researchers, leaders from advocacy and philanthropic groups, and technologists. The group first considered the fundamental characteristics of networks and their role in world affairs. Participants further explored the ways in which networks operate and, particularly the issue of power in networks. They grappled with the problem of "memetic warfare" that involves a struggle between "viruses of ideology" able to rapidly proliferate through networks, and they then discussed efforts to contain or neutralize them. The final sessions turned to the question of how countries can assert their national interest in a networked world and, more specifically, what skills "networked diplomats" need to leverage the power of networks in carrying out their jobs.

The Nature of Networks

A network can be defined simply as "a collection of nodes and links." A node is an intersection point within a network, while links are the connections between nodes. In a computer network, nodes can be terminals, routers, file servers or other "peripherals" attached to the network. In a social network, nodes are people who are connected to other people.

…power does not mean the ability to command or control others, but rather the ability to communicate with and therefore have the opportunity to influence others.

Networks can take many different forms, but they all consist of nodes and links and are organized horizontally: no one is "above" anyone else. The importance of a node depends on its location in the network in relation to other nodes, its centrality, and how connected it is to other nodes.

Historically, most human institutions—governments, military organizations, corporations, NGOs—have been structured as hierarchies: they have a leader at the top and ranks of staff below who carry out orders that come down from above. Power in hierarchies is distributed vertically, with the leader at the top having the most power.

In non-hierarchical networks, however, power depends on *centrality* and the intensity of connectivity, with those nodes who are most connected having the most power. In such networks, power does not mean the ability to command or control others, but rather the ability to communicate with and therefore have the opportunity to influence others. According to Anne-Marie Slaughter, network analysts identify four different types of centrality:

- DEGREE CENTRALITY is the most basic and simply indicates how many links a node has. Thus, the power of Internet celebrities is typically described in terms of how many friends or followers they have.

- CLOSENESS CENTRALITY describes the average distance between a given node and all the other nodes in a network. As the story of Youngstown vs. Allentown (below) demonstrates, having nodes with different degrees of closeness can sometimes be an advantage.

- BETWEENNESS CENTRALITY measures a node's position between other nodes; a node with high betweenness centrality sits at the intersection of the shortest paths between other nodes. Functionally, betweenness centrality reflects the amount of control that a node exerts over interactions and the flow of information among other nodes in the network.

- EIGENVECTOR CENTRALITY represents the average degree of connectedness of a node's neighbors. By this measure, the importance of an individual is not based on how many friends he or she has, but rather on how well connected those friends are (e.g., someone "who knows all the right people").

It is worth noting that any node can be described by all four of these factors, and that different types of centrality may be more or less important for different purposes.

Networks vs. Hierarchies. It seems plausible that when people need to be organized to accomplish a specific task or a series of tasks over time—whether it is to build a car, run a railroad or win a war—that a hierarchical structure would be the most effective way to ensure goals are clearly established, that everyone knows their assignments and carries them out in a reliable, predictable way. In fact, hierarchies are very good at achieving efficiency of operation.[6]

Networks would seem to be much less effective than hierarchies in accomplishing these kinds of structured tasks. But there are several examples where networks have been remarkably successful in competing with more traditional organizations. Consider Wikipedia, which mobilized volunteers to create an online encyclopedia that proved to be more useful than traditional encyclopedias and essentially replaced them. Wikipedia is far more comprehensive and up to date than any printed encyclopedia. As of November 2017, the English language version of Wikipedia contained more than five and a half million articles and was growing at an average of 650 new articles per day. Wikipediaes now exist in 299 different languages, and of these, 13 have more than one million entries.[7]

Another example of the power of networks is open source software. The Linux computer operating system is collectively maintained by a vast community of users and developers who are committed to its survival. Although it is owned by no one and controlled by no one, it competes very successfully with conventional commercial software.[8]

Although hierarchies have clear benefits, they have drawbacks as well. As they get larger, they tend to grow more bureaucratic and become more rigid and rule-bound. The predictability that is the hallmark of hierarchies tends to make it difficult for them to respond quickly to unexpected developments or the emergence of a new challenge. In an environment of rapid change, this can be a serious, even a fatal flaw.

Anne-Marie Slaughter points out that virtually every significant organization combines aspects of hierarchies and networks. Organizational charts provide only a partial view of how power is distributed in corporations or other hierarchical groups. Studies that trace the way that work actually gets done inside organizations invariably reveal the critical role of informal networks through which information is distributed

and problems are solved.[9] Slaughter notes that when the McChrystal Group, a consulting firm that "specializes in transforming hierarchies into networks," begins each new engagement, it conducts an analysis of a client's organization to identify the existing networks that represent "the veins and arteries through which the lifeblood of the organization actually flows."[10]

…as social networks become more pervasive and powerful, it is time to add network design to the toolkit of diplomats.

It is also true that most groups that function primarily as networks rely on some measure of hierarchical organization. While the content of Wikipedia is generated by tens of thousands of volunteer contributors, the project is dependent on a much smaller cadre of unpaid administrators who have been granted access to special editing tools and given the authority to correct problems they find. Behind (or above) these volunteers is a core group of approximately 50 paid staff "with real power" that set and implement policies and keep the enterprise running.[11] Similarly, at the heart of the Linux open source movement is the Linux Foundation that provides training, hosts conferences and supports projects to advance the use of Linux. In addition, many users of the software depend on commercial distributors (including Red Hat, IBM and Dell) to deliver and support their Linux installations.

What these examples show is that all hierarchies use networks and most effective networks have some sort of hierarchy. But as social networks become more pervasive and powerful, Slaughter asserts, it is time to add network design to the toolkit of diplomats, which means that diplomats, who have traditionally functioned in a hierarchical "chessboard" world, need to understand what networks can accomplish, how they operate, and how they can be used to further their goals. Slaughter cautions that she is not advocating for an "either/or" choice between the two types of structures, but rather for development of a "both/and" strategy that seeks to incorporate the strengths of each form.

Networks in Action

One of the most noteworthy recent demonstrations of the power of networks is the role that social media played in sparking the Arab Spring, and particularly in precipitating the massive demonstrations in Tahrir Square in January 2011 that were the epicenter of the popular uprising in Egypt that led to the downfall of Hosni Mubarak. An analysis of the events in Egypt that appeared in WIRED shortly after they occurred concluded that social media did not "cause the revolution…but [they] did speed up the process by helping to organize the revolutionaries, transmit their message to the world and galvanize international support."[12] According to one expert quoted in the article, "Facebook helped to organize the activists inside the country . . . while Twitter functioned to help get the message out to the broader world."

"Networks are better at destroying things than creating things." - ***Anne-Marie Slaughter***

In her book, Anne-Marie Slaughter cites the Egyptian uprising as a distinctive example of the ability of networks to mobilize people non-heirarchically:

> The protestors…refused to appoint a leader. Even [Wael] Ghonim, who mobilized tens of thousands of protesters with his Facebook page and Twitter feeds, rejected the leadership mantle…. As digital natives, the protesters saw the world not in terms of atomized actors requiring leaders to represent them and organize cooperation, but as a vast network of individuals who needed only to be coordinated and activated to take to the streets and demand change.[13]

However, now that time has passed since these events took place, the benefit of hindsight provides a more nuanced assessment of the role of networks in the Arab Spring. According to Jerry Green, President and CEO of the Pacific Council on International Policy, subsequent events show that while social media may in fact have the power to promote

social and political change, they are not nearly as effective in governing a nation. Anne-Marie Slaughter agreed that the lesson of Tahrir Square is that "networks are better at destroying things than creating things," and that hierarchies—or hybrids of networks and hierarchies—still have important roles to play in governing.

New connections … and old. Of course, revolutions are not new, and neither are networks. In many places, older forms of connection—of networking—remain potent. Marc Nathanson, Chairman of Mapleton Investments, recalled a time when as Chairman of the Broadcasting Board of Governors (the body that oversees Voice of America and Radio Free Europe), he visited Africa with Madeleine Albright and met with groups of young Kenyans. On the surface, at least, they were very similar to young people in the U.S.—active Internet users and quite sophisticated about political issues internationally as well as in their country. But when it came time to vote, these young adults voted along tribal lines, which represented older and deeper social connections.

Haroon Ullah, Senior Member of the Secretary's Policy Planning Staff in the U.S. State Department, added that he is concerned with people who are not on the Internet, not part of any of the new networks. In many places, in fact, TV "is still king." He worries about people who live in traditional communities that are not part of larger structures and who may be becoming more isolated. These are places that are ideal for groups like ISIS and the Taliban to do recruiting since alternative messages simply do not get heard.

The tension between newer and older forms of connection can also be found in developed countries, including the U.S. Alec Ross, Distinguished Senior Fellow at Johns Hopkins University, cited the work of David Goodhart, who describes the deep divide between two social groups: "Anywheres," who tend to be well educated, welcome globalization and the opportunities that it brings, derive meaning from their careers and are deliberate builders and users of networks; and "Somewheres," who are largely non-college graduates, identify most strongly with their family and local social ties and relationships built through sports and church.[14] Although Anywheres are a minority of the population, their social and economic success has given them considerable power and prestige. But Somewheres are the majority who have demonstrated their power through the rise of populist, nationalist

movements. It was the latter group who, according to Goodhart, were responsible for voting to take the U.K. out of the European Union.

The importance of speed. Although networks, both local and global are not new, the arrival of the Internet has provided a powerful tool that speeds up the process of creating social networks among groups of people and broadens participation in those networks. Given the speed with which information can be spread, events that used to unfold over days or weeks now can be compressed into hours. To illustrate this aspect of "network power," Anne-Marie Slaughter related the story of Mona Eltahawy, a well-known Egyptian-American activist. In November 2011, Eltahawy was arrested in Cairo, but managed to tweet a five-word message, "beaten arrested in Interior Ministry" to her sixty thousand Twitter followers. The message was quickly picked up and relayed widely and was almost immediately brought to the attention of the U.S. Embassy in Egypt. Within a few hours, Eltahawy had been released.

Felipe Estefan, Principal of Governance and Civil Engagement for the Omidyar Network, provided another, larger-scale example of how a network can be used to mobilize quick action. On June 1, 2017, immediately after President Trump announced that he had decided to withdraw from the Paris Accord, the Mayors National Climate Action Agenda (a national network of U.S. cities and towns that had formed in 2014) announced that more than 300 mayors were publicly committing their communities to "adopting, honoring and upholding Paris Climate Agreement goals." (Among the participants was the mayor of Pittsburgh, Bill Peduto, who responded to the President's tweet of having been elected by the voters of Pittsburgh not Paris, with his own tweet that noted that his city had voted for Hillary Clinton, and stated that "Pittsburgh stands with the world & will follow Paris Agreement."[15])

The Darker Side. In the early days of the Internet, most observers were quite sanguine about its potential for expanding freedom of speech and broadening participation in political processes. In fact, in 1983, a decade before the Internet emerged as a global force, MIT Professor Ithiel de Sola Pool published a classic study titled *Technologies of Freedom* that argued that the new electronic networks were inherently democratizing and that "the easy access, low cost, and distributed

intelligence of modern means of communication are a prime reason for hope." But Pool also recognized that there was no guarantee that the potential of the new media would be achieved, particularly if governments attempted to limit them by applying old regulatory constraints and warned, "Communications in the future may be unnecessarily regulated under the unfree tradition of law that has been applied so far to the electronic media."[16]

In 2001, California Governor Gray Davis appointed Geoffrey Cowan, who was Dean of the Annenberg School of Communications at USC at the time, to head a new state commission on Internet political practices. The group came to the unanimous conclusion that "what was happening with the Internet was more good than bad" and that the state should adopt a laissez-faire approach to regulating it.[17]

Power can flow both ways: statecraft affects webcraft as well as the other way around.

In recent years, some of the optimism about the democratizing power of networks has given way to more skeptical views. Shanthi Kalathil, Director of the International Forum for Democratic Studies at the National Endowment for Democracy, raised the question of whether networks do, in fact, have inherent characteristics such as promoting openness and transparency. The Internet has proved to be a useful tool for a variety of "bad actors," enabling them to communicate with each other and to take advantage of the broad reach of the Internet to cause trouble of various kinds. At the same time, governments have become wary of the destabilizing power of the Internet and have begun to act to limit the freedom of expression that the Internet promised to provide, much as Pool had feared.

While the U.S. has generally taken a light-touch approach to regulating the Internet, the same has not necessarily been true in countries with autocratic governments. While the Internet is highly popular in less open countries like Saudi Arabia and China, it does not operate with the same freedom in those countries as it does in the U.S. and other democracies. Power can flow both ways: statecraft affects web-

craft as well as the other way around. Geoffrey Cowan added that he now believes that we need to revisit the questions that were asked by the California Commission in 2001 and determine if anything has changed that requires action. If new rules are warranted, the challenge remains to create rules that are not worse than having no rules.

…while the Internet has been described as "a digital nervous system" for humanity, we may also need to create a "digital immune system" to ensure that it can detect pathogens and toxins and contributes to maintaining good social health.
– Esther Dyson

Academia, and others, now recognize that networks, just like hierarchies, have weaknesses as well as strengths. Esther Dyson, Executive Founder of Way to Wellville, pointed out that while (good) hierarchies have well-established means to provide accountability, networks generally do not. She adds that the lack of accountability makes it difficult for networks to establish trust, which means that networks may be more effective at disrupting than building institutions, since "disruption doesn't require, and rarely builds, trust. We see that in most revolutions, and their usually painful aftermaths, and also in the cynicism fostered by 'fake news.'" Karen Kornbluh, Senior Fellow of Digital Policy at the Council on Foreign Relations, added that networks appear to provide "authenticity" by allowing people to express themselves directly, but that authenticity can be faked. Ironically, one of the hallmarks of new networks—their openness and lack of barriers to participation—makes it easier for "bad actors" (including non-human ones) to participate and subvert the legitimacy of a network and its ability to support democratic goals. Esther Dyson commented that while the Internet has been described as "a digital nervous system" for humanity, we may also need to create a "digital immune system" to ensure that it can detect pathogens and toxins and contributes to maintaining good social health.

Allentown vs. Youngstown. To underscore the fact that not all networks are created equal, Anne-Marie Slaughter concluded the discussion with the story of the differing fates, when faced with the same economic crisis, of Allentown, PA, and Youngstown, OH, based on the research of organizational theorist Sean Safford and the theories of sociologists Robert Putnam and Mark Granovetter:

> The main reason Allentown bounced back and Youngstown struggled to recover was not the presence of civic networks; each city had a civic infrastructure linking business leaders, social clubs, arts and cultural institutions and charities. It was the diversity of people and organizations that were connected.… In Youngstown, the economic and social networks largely overlapped, so that the virus of globalization and technological transition hit both equally hard. In Allentown, the two networks intersected at critical points but diverged enough that when the local economic leadership was decimated, other civic leaders could connect the key constituencies who needed to cooperate in the face of the region's crisis.
>
> When the steel industry began to founder, the Garden Club couldn't save Youngstown because the Garden Club members were mostly the wives of the very business elite that was in trouble as the steel industry foundered. But in Allentown, the region's most important business leader, the head of Bethlehem Steel, focused his civic activity on the board of the Boy Scouts, "a cross-class-based organization" that connected him to a much wider array of civic leaders.…In Youngstown the ties were too strong, reinforcing one collective view and creating stasis. Allentown's civic network had more bridging than bonding capital, weaving together more disparate groups and illustrating "the strength of weak ties."[18]

Network Power

If networks are a new source of power, then it is important to understand how they work. What are the principles that govern network behavior? What are the key characteristics of networks that determine how and when leverage can (and cannot) be applied?

Tom Wheeler, Visiting Fellow at the Brookings Institution and former Chairman of the Federal Communications Commission (FCC), started the discussion proposing that "we look like our networks" and that how we connect with each other defines our economic and social activities. To illustrate the point, he looked back to the 19th century to the advent, first, of high speed transportation networks in the form of transcontinental railroads, and then the emergence of high-speed electronic communication networks, beginning with the telegraph. These two innovations "created the urban maps that we know today" as well as new economic and social structures such as mass production, the factory model of education and our modern health care system. Big government arose to deal with these forces, helping to reinforce the concept of the nation-state.

…society is witnessing a shift from centralizing networks to decentralizing networks, from centripetal to centrifugal forces that seem to be pushing power and activity outwards.

Now, 150 years later, society is witnessing a shift from centralizing networks to decentralizing networks, from centripetal to centrifugal forces that seem to be pushing power and activity outwards. But networks have a Janus-like quality: even as they erode the power of traditional institutions by decentralizing control, they are also creating new forms of control. While familiar with the concept of "gatekeepers" who controlled access to mass media (publishers, editors, producers), there is now the rise of "infokeepers" who understand the power of collecting and analyzing data, and "mathkeepers" who create the algorithms that determine much of what happens online. Scholars are also redefining

what they mean by a "network." In addition to being just a collection of nodes and links, a sufficiently pervasive network can also be a platform on which other sub-networks can be built using the platform's standards (think of the Internet itself, or a dominant application such as Google or Facebook).

These new roles and new configurations of power represent challenges to existing rules and assumptions that were developed in a different environment. For example, what is the relevance of anti-trust laws in an era where the issue is not just the production of goods and services but also the creation and manipulation of data? More broadly, how do we understand a society that is shifting from mass audiences (created and shaped by mass media) to a constellation of smaller and rapidly shifting networked communities?

… what is most transformative and consequential about new innovations is not the underlying technology itself, but rather the secondary effects from that technology. *– Tom Wheeler*

Wheeler concluded by noting that what is most transformative and consequential about new innovations is not the underlying technology itself, but rather the secondary effects from that technology. Again, this is not new. In the 19th century, the mass urbanization created by the new transportation and communication networks gave rise to urban squalor that led to the development of zoning laws and public health services, while the growth of factories and mass production led to the creation of unions for workers. The question today is: what responses do leaders need to pursue to deal with the changes brought about by the new network technologies and their secondary effects?

Network roles. Networks come in many different forms and serve many different types of purposes. But there are some fundamental principles about how networks operate that are useful to keep in mind.

As noted earlier, the basic definition of a network is a collection of nodes and links. While power in hierarchies flows from the top, power

in (horizontal) networks derives from the *centrality* of a node, which expresses how well connected and therefore important a given node is in a network. Since network participation is generally about influence rather than control, centrality, which can be measured in multiple ways, is a key factor.

Another important characteristic of networks is their degree of openness. At one extreme are tribes (like those that the young people that Marc Nathanson and Madeleine Albright met in Kenya belonged to), where membership generally requires that one be born into it. Tribal connectivity is typically maintained through multiple dimensions, including language, religion, dress and other customs. At the other extreme is the Internet or Facebook, which anyone can join and use (as some two billion people have) as long as they conform to a certain set of standards or protocols.

Scale is another critical dimension of networks. Networks tend to grow according to a power law, which means that their value increases exponentially with the number of participants, which in turn fuels further growth. With more than two billion users worldwide, Facebook functions as a "platform" (Esther Dyson) or a "network of networks" (Monika Bickert) that makes it easy for groups to form their own subcommunities.

Perhaps the most important question is what, exactly, are networks good for? In *The Chessboard & the Web*, Anne-Marie Slaughter identifies three basic types of networks, each with three subtypes, based on their primary function—networks that build resilience, networks that help groups to carry out discrete tasks, and networks that enable large groups to enlarge the impact of effective solutions (see sidebar, "A Network Typology"). In every case, key considerations include not only how the network functions technically but what the purpose of the network is, who it connects, and how participants communicate and work with each other through the network. Some networks are relatively ad hoc and transient, assembled to accomplish a specific goal, such as coordinating responses to an immediate crisis, then dissolving when the goal is reached. Other networks are more persistent because they serve an enduring need or purpose.

A Network Typology

I. Resilience Networks

The function of these strategic networks is to help to "avoid or respond to a crisis" in the short-, medium- or longer-term.

A. *Defense networks* enable an effective immediate response to a direct attack. Because they need to operate in extreme circumstances, basic survivability is a key requirement. The classic example is a packet-switched network, first described by Paul Baran of RAND in 1968 as a means to create a radically decentralized network that would be less vulnerable to a military attack than the centralized circuit-switched networks of the day.[19] Baran's innovation provided the technical basis for the Internet, which is well on the way to entirely replacing older network designs globally. A contemporary example of a defense network is the effort by the Department of Homeland Security to create "a distributed grid to improve cybersecurity" through real-time sharing information on cyberthreats and countermeasures.

B. *Response networks* are designed to coordinate ongoing responses to disasters and other emergencies. Ushahidi, which was originally created in 2007 as a network tool to document election fraud in Kenya has been used to coordinate responses to disasters such as the 2010 earthquake in Haiti.

C. *Stabilization networks* are intended to aid recovery from a disaster (including war) over time. Even as traditional activities such as capacity building are carried on, these networks help to strengthen connections between people who can rebuild fragmented communities.

II. Task Networks

These networks are intended to help disparate groups of participants to pursue specific projects.

A. *Cooperation networks* support groups working to carry out a prescribed task in a prescribed manner. In an international context, such networks can build trust, even among adversaries, by connecting people to work together to accomplish a shared goal.

B. *Collaboration networks* bring people together to figure out how to accomplish a common goal. A powerful example is the use by General Stanley McChrystal of a daily teleconference to share critical information among special operations units fighting in Iraq and Afghanistan as a tool to meld these highly independent units into a more effective "team of teams" by building a sense of a shared mission.

C. *Innovation networks* expand the scope of people who are working to generate new ideas or find new approaches to problems. InnoCentive is a "crowdsourcing platform" that allows groups to post open "challenges" and offer a reward for the best solution. Interestingly, many InnoCentive winners have lacked conventional credentials that would have made them logical candidates to work on the problems they addressed. The power of the network is to open competition to non-traditional candidates.

III. Scale Networks

This final category focuses on using networks to leverage local capabilities to address big problems more effectively.

A. *Replication networks* make it possible to enable a concept or an innovative solution that has been successful on a small scale to spread rapidly. A dramatic example is TEDx, which took the model of an event that highlights "ideas worth spreading" from a limited (but highly successful) commercial venture to an "open" format that has been replicated internationally over ten thousand times.

B. *Coordination networks* are designed to align and magnify the effectiveness of multiple ongoing efforts to address a common problem. A good model is the Global Alliance for Vaccination and Immunization (GAVI) that encourages more strategic responses to fighting infectious diseases globally by improving the quality of vaccines and making them more affordable.

C. *Cumulation networks* take large tasks and divide them into smaller parts that many people can work on simultaneously. Amazon's Mechanical Turk performs this function for relatively simple projects, while open source communities (such as the one supporting Linux) enable many developers to share responsibility for maintaining and enhancing valuable software programs.

Network rules. Slaughter's typology categorizes networks in terms of positive goals, and there is no question that networks are being used for many constructive purposes. But networks can have unintended consequences or be intentionally used for anti-social purposes. And what is considered a worthy purpose in one environment (e.g., the promotion of democratic dialog) may be viewed as a threat in another environment.

As society has become more aware of the power of networks, and particularly of their darker side, the world has entered into what Tom Wheeler described as "a race to make rules." He also noted that an absence of rules does not mean "deregulation;" rather it means that "someone else is making the rules," where someone else may be a commercial entity, like Facebook, or another government.

Historically, the Internet has been governed largely through voluntary groups such as the Internet Engineering Task Force (IETF) that focused mainly on setting standards. While this approach worked well as long as the Internet was largely U.S.-centric, it has become more fraught as the Internet has spread globally. Decision-making in these bodies has become politicized as countries like China attempt to influence the governance process of these supposedly independent bodies. And as the impact of the Internet grows, this voluntary approach to governance may be less effective for content or economic issues than for purely technical issues.

Because the Internet is now global, inaction by the United States may lead to action by others. A recent example is the fine imposed on Google by the European Union for unfairly favoring its own sites in search results. Another example is the broad personal privacy protection regime—including "the right to be forgotten"—imposed by the EU, which goes well beyond the limited protections provided by U.S. law.* Another type of initiative that threatens the integrity of the Internet is the emergence of data localization laws requiring that data generated in a country be stored in that country.

As Alec Ross, Distinguished Fellow at Johns Hopkins University, noted, norms vary greatly from country to county. For example, transparency and freedom of expression are important values in the U.S., but are much less so in many other countries. Protecting personal privacy is a higher priority in Europe than in the U.S. Both Facebook and Wikipedia are currently banned in China, while WhatsApp has been blocked in Brazil. Virtual private networks (VPNs), seen in the U.S. as indispensable tools for protecting privacy and legal in most countries, are forbidden in Russia, Belarus, China, Turkey, Iraq, United Arab Emirates and Oman.[20] Facebook's Monika Bickert commented that balancing the desire to operate under a single set of global standards with the need to conform to local requirement has become a formidable challenge for companies like hers.[21]

Economics also play a large role in shaping regulations. Data localization rules are often motivated by a desire to foster a local IT industry, even when restricting the free movement of data run directly counter to the promise of the cloud to provide users with access to the most efficient resources available, wherever they happen to be located. And economic considerations are typically involved when powerful incumbents succeed in getting regulators to protect their interests from upstart providers with new technologies. This is particularly true when a government has a direct stake in one or more of the industry partici-

* Because so much Internet activity is international, the U.S. government found it necessary to negotiate a bi-lateral agreement, known as the Privacy Shield, with the European Union, in order to ensure compliance with EU privacy rules. U.S.-based companies that wish to transfer information from the EU to the U.S. can voluntarily subscribe to certify that their policies conform to EU law.

pants. Although liberalization has greatly reduced government ownership of telecom across the world, some governments retain a financial stake in their country's network providers, which inevitably influences their approach to regulation.

Because these social, political and economic factors play out differently in different places, countries vary widely in how they regulate network activity. As a result, the Internet runs the risk of becoming balkanized. The question now, according to Esther Dyson, is whether the Internet will remain as "one beautiful global, but diverse, network" or whether it will devolve into many vertical, locally-controlled networks.

Shifting perspectives. As long as the Internet was perceived as a heterogeneous decentralized network that no one owned and no one controlled and was seen mainly as a playground for the digerati, it was generally viewed as a non-critical threat by most governments. But as the Internet became perhaps the most massive of all media and has come to be dominated by a few large, powerful and highly visible platform companies, the issue of control is more salient. Just as Willie Sutton robbed banks because that was where the money was, the Internet and its key platforms are important because that is where people's attention is going. (A large majority of Americans regularly access the Internet, and the average user currently spends 4-5 hours per day online, mostly via mobile phones, and about half of that time on social media.) Concern about the power of networks has also grown as Internet-borne information warfare from both state and non-state actors has emerged as a serious threat over the past several years.

Viruses of Ideology

In his 1976 book, *The Selfish Gene*, Richard Dawkins coined the term "meme" which he defined as "a self-reproducing and propagating information structure analogous to a gene in biology." Just as a gene carries instructions that determine a physical characteristic that is passed down through succeeding generations, a meme encodes an idea or other information that can be transmitted from one person to other people.

Just as a gene carries instructions that determine a physical characteristic that is passed down through succeeding generations, a meme encodes an idea or other information that can be transmitted from one person to other people.

Of course, memes are not new. In fact, they have been around as long as humans have had the ability to communicate with one another, which made it possible to capture and transmit knowledge across generations. Instructions for how to make a flint cutting tool or how to grow wheat provided sparks that helped energize the evolution of human civilization, while memes like the Garden of Eden, Pax Romana, the crucifix, the divine right of kings all played profound roles in shaping our civilization.

What is new is the emergence of modern electronic media that make it possible to propagate memes far faster and wider than had previously been possible. As Nova Spivack, Founder and Chief Executive Officer at Magical, noted "the growth of the Web, social media, texting, and the adoption of smart phones, the ease with which anyone can create and spread memes, and the potential audiences they can reach, have radically increased." As awareness of the potential of memes increased, the goal of meme makers became to have them "go viral"—to replicate rapidly by being shared multiple times. Many memes took the form of a simple image along with a bit of text that was attention-getting and easy to share. The use of hashtags on Twitter also became an effective way to encourage the wide sharing of an idea.

The war on trust. This was all largely harmless fun until memes became coopted as weapons as part of what Nova Spivack described as a "war on trust"—the deliberate use of "military-grade information warfare and psyops" by both governments and non-state actors, aimed at civilian populations "to overwhelm and ultimately degrade, societal faith in institutions, democracy, the free press, science, leaders and in each other."

The openness, pervasiveness and relative anonymity offered by the Internet has made it a perfect medium for carrying on this type of warfare, and the self-replicating power of memes has made them an attractive weapon for spreading doubt and disinformation. Ironically, open societies with their traditions of free speech and democratic dialog, provide the ideal "petri dish" for memes to spread with little or no government interference. The ultimate goal of these cyber-attacks, according to Spivack, is to "disarm the societal immune system. . .by degrading faith in institutions, democracy, the free press, science, leaders, the rule of law and in each other."

The purveyors of disinformation have an inherent advantage over the defenders of fact: while the accuracy of a true story typically gets established within two hours, it can take up to 14 hours before a false rumor gets thoroughly fact checked and discredited, leaving considerable time for it to circulate and have a wide impact. And the generation of fake news now seems to be a predictable response to every big event. In the immediate wake of the mass shooting in Las Vegas in October 2017, a spate of "hoaxes, completely unverified rumors, failed witch hunts, and blatant falsehoods spread across the Internet," some of which got amplified by the algorithms used by social media to promote stories "trending" with users.[22]

Although cyberattacks are not new, the reality of the cyber-based war on trust attained new prominence in 2017 as Russia and possibly others attempted to interfere in elections in the U.S. and other democracies using "fake news," e-mail hacks, and attacks on voting systems.

In the wake of ongoing investigations into the nature of this interference, the deliberate use of social media platforms such as Facebook and Twitter to spread disinformation has come to light. And even as ISIS has suffered from a series of setbacks on the battlefield, it has continued to use social media to maintain its "global influence."[23]

The science of memes. Following Richard Dawkins' identification of memes in 1976 as a cultural phenomenon, research on the nature and function of memes was relatively sparse, limited primarily to a handful of academics. But as memes became "weaponized," more attention has been given to their potential and how they can be effectively countered. After 2001, as part of a broader effort to respond to a "war of ideas" being waged by terrorists, the U.S. military began paying attention to

the importance of memes. In a 2006 memo, then-Secretary of Defense Donald Rumsfeld noted that "[al-Qaeda leader Ayman] Zawahiri has said that 50 percent of the current struggle is taking place in the arena of public information."

Also in 2006, Michael Prosser published a master's thesis at the Marine Corps University School of Advanced Warfighting titled "Memetics: A Growth Industry in U.S. Military Operations" that proposed the creation of a Meme Warfare Center as part of the military.[24] That same year, the Defense Advanced Research Projects Agency (DARPA) commissioned a multi-year study of "military memetics" conducted by Dr. Robert Finkelstein, head of Robotic Technology, Inc., who proposed to develop a general theory of memetics that would yield "testable predictions and falsifiable hypotheses" about how memes work.[25] Finkelstein defined memes as "information which propagates, has impact and persists" and explained that a meme can be as small as a single phrase or image or as large and complex as an unabridged dictionary or the instructions for building a nuclear submarine. He also identified other metrics to describe how memes spread and persist and the impact they can have.

Nova Spivack has also been thinking about the need to develop a more scientific approach to the study of how ideas propagate. In a 2004 paper on "A Physics of Ideas: Measuring the Physical Properties of Memes," he wrote:

> Ideas are perhaps the single most powerful hidden forces shaping our lives and our world. Human events are really just the results of the complex interactions of myriad ideas across time, space and human minds. To the extent that we can measure ideas as they form and interact, we can gain a deeper understanding of the underlying dynamics of our organizations, markets, communities, nations, and even of ourselves. But the problem is, we are still remarkably primitive when it comes to measuring ideas. We simply don't have the tools yet and so this layer of our world still remains hidden from us.[26]

Infodemiology. To help us to better understand and respond more effectively to hostile memes, Spivack called for the development of a new field of "infodemiology," which has been defined as "the science of distribution and determinants of information in an electronic medium, specifically the Internet, or in a population, with the ultimate aim to inform public health and public policy."[27] Drawing on concepts and practices from epidemiology to inform strategies for memetic warfare, this new field is adapting public health techniques developed to combat infectious diseases. For example, outbreaks of disease can be countered by "ring immunization," a process that focuses on immunizing all contacts around an infected individual (the technique used in combatting Ebola), while "broad immunization" attempts to eradicate a disease in advance by immunizing an entire population (the technique that was used to eliminate polio).

To provide immunity to memes, one technique could be to develop the information equivalent of T-Cells, the physical factors in the body (white cells) that work together to recognize, hunt and kill dangerous foreign bodies. Following this analogy, a society under attack from "offensive memes" would design "defensive memes" that would function as "social T-Cells" that would help a population to develop resistance to harmful memes.

Combatting ISIS. As noted earlier, ISIS has invested heavily in using social media to conduct information warfare that reaches well beyond the physical limits of its territory. From the perspective of infodemiology, ISIS is "meme-plex" that can be seen as a public health problem that behaves "like a disease…a mental health disorder…that is spreading virally through at–risk populations." Specifically, think of ISIS' ideology as an infectious virus and fight it as we would fight a virus.

One key characteristic of any infectious disease is its degree of contagiousness, also known as its "viral coefficient" (R0) or the number of people that one sick person will infect on average. Viral diseases like hepatitis and Ebola have a fairly low R0 of 2, while measles, with an R0 of 18, is much more contagious. Fortunately, it appears that the R0 for ISIS is fairly low: it is not highly transmissible and the fatality rate, to date, has also been relatively low. Unlike Ebola, which spread rapidly and killed many of those who contracted it, ISIS has not been able to achieve sustained exponential growth.

In fact, it is possible the disease that ISIS most closely resembles in terms of its contagiousness is leprosy, which is a serious disease but is actually quite hard to transmit: infection requires repeated intimate contact and mainly spreads through close family bonds and people who live in close proximity in long-term relationships. Similarly, ISIS infections are transmitted through intimate relationships between a guru and his acolytes.

Memetic Public Health Strategies

Monitoring

- Measure and map the real-time spread of radical ideologies and attempts to combat them, using new technologies

Early Detection

- Detect emerging threats and opportunities
- Measure strengths and weaknesses of extremist groups and ideologies
- Work with families and communities to intervene

Inoculation

- Immunize individuals and populations from infection by violent extremist belief systems
- Build advocacy from ex-cult members to help advocate for the cause

Treatment

- Create methodologies for systematically de-radicalizing and extracting people from extremist groups
- Neutralize ex-extremists as a threat, re-integrate them into society and keep them from going back

Training

- Create curriculum and training programs
- Implement training programs
- Train law enforcement, intelligence, counter-terrorism, military, mental health professionals and policy-makers for our new methodologies

Advocacy & Intervention

- Promote messages, values and campaigns around the world
- Set-up Task Force Centers around the world to focus on regional challenges

Source: Nova Spivack

To find effective means to prevent the spread of an ideology like ISIS, look to past successful campaigns to combat infectious diseases. In particular, it makes sense to focus efforts on "susceptibles," people who are likely to be vulnerable to the appeal of ISIS but have not yet been infected, with a goal of building up their immunity to ISIS before they are exposed to it. It is harder to deal with those who have already been infected; the primary goal with this group should be to prevent them from transmitting the infection to others. An effective infodemiology campaign needs to make use of a spectrum of strategies drawn from epidemiology, ranging from monitoring and early detection through inoculation and treatment.

Memetic Warfare. The basic definition of memetic warfare is the use of memes to combat other memes. But one practical challenge for nations that wish to engage in this kind of struggle is that memes seem to be a more effective weapon for insurgencies than for governments: as one participant put it, memes appear to function like the IEDs of information warfare and are subversive by nature. They do a good job of blowing things up, increasing disorder within a system, but they do not seem to be good tools for building stability.[28]

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The challenge of this asymmetry was clearly demonstrated by the 2013 attempt by the U.S. Department of State to combat ISIS propaganda with its own Twitter campaign titled "Think Again Turn Away." According to one critic, the initiative, which attempted to explicitly use the credibility of the agency, was "not only ineffective, but provided jihadists with a stage to voice their arguments."[29] A similar kind of blowback happened in 2014 when the New York City Police Department attempted to launch a meme in the form of a Twitter hashtag, #mynypd, that was intended to encourage residents to share positive stories about the police. However, the hashtag was quickly co-

opted by critics who used it to share images of alleged police brutality perpetrated by the department.[30]

A more effective strategy for inoculating vulnerable populations is not trying to mimic insurgents' strategies, but to intervene *with* them in ways that are authentic through existing "networks of trust." Thus, the most powerful memes come from the grass roots and need to evolve freely. The most effective (though potentially risky) initiatives give a voice to individuals who have a message that is consistent with the one that a government or an institution wishes to communicate. Marc Nathanson cited the example of a campaign to increase the college application rate among inner city high school students with low participation rates in higher education. Rather than just offering information or media messages, the campaign identified students who were leaders in their schools and trained them to encourage other kids in the schools to apply for college and financial aid. The result was an increase in the rate of college attendance from under 10 percent of graduates to more than 30 percent.

Felipe Estefan from the Omidyar Network noted that participation in an online network is not automatically "empowering." Being online can make people more vulnerable to disinformation and can isolate them from their immediate communities, limiting their ability to participate in civic actions. In reality, most online networks are being driven by commercial considerations and are not necessarily serving the public interest.

How, then, can individuals be truly empowered? People generally hate being told that they are wrong, which is what often happens when people are encouraged to fact-check information they encounter online. A better strategy is to give people the tools to do their own fact-checking. In Argentina, the Omidyar Network funded Chequeado, an organization that created an app to make fact-checking easier to do, and a trivia game called Chequeate that tests an individual's knowledge.[31]

According to Monika Bickert, Facebook established several initiatives designed to combat disinformation by "stopping bad stuff, promoting responsible stuff, and helping people to tell the difference between the two." For instance, Facebook looks at "back end signals" of postings to find ways of detecting fake accounts that are spreading disinformation. She noted that during the French election the company took down some 30,000 accounts. (The company also acknowledged that it had

posted several thousand misleading political ads aimed at U.S. citizens, some of which were paid for in rubles, that were not identified until well after the election.)

In one of their efforts to promote responsible content, the company sponsors the Facebook Journalism Project that is intended to help mainstream media understand and operate more effectively in a digital world. The project includes collaborative development of innovative news products, including new storytelling formats, and training and tools for journalists and for news consumers.[32] In partnership with First Draft, a nonprofit coalition of news organizations whose mission is "to raise awareness and address challenges relating to trust and truth in the digital age," Facebook is working on a project to educate bloggers on journalistic standards.

Facebook has also undertaken several initiatives to help individuals become more discerning consumers of information. Along with craigslist.com founder Craig Newmark and other funders, it sponsors the News Integrity Project at the City University of New York. It has also experimented with allowing users to flag stories they believe are dubious or untrustworthy. If an article attracts a certain number of flags, it is sent to a third party for fact checking and, if found to be questionable, can be tagged by Facebook as "disputed news,"[33] a tag users can see so they can have more context for assessing the story.

Facebook and other major platform providers still have considerable work to do to restore confidence in their credibility and must do so in the face of threats that continue to evolve. Perhaps the most important step these network enterprises can take to earn the trust of users is to be fully transparent about what they are doing.

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Building the Brand. While the Internet was originally seen as a powerful tool to promote openness and expand political engagement, this sanguine view is now challenged by a rising tide of cyberattacks, fake news and anti-social messages. The overall impact, according to Esther

Dyson, is that our collective capacity to trust is being eroded, which makes every attempt to build a consensus less effective.

The Internet has emerged as a critical battlefield and memes have been mobilized as powerful weapons that can sow distrust. But they do not operate in a vacuum. As several ADDTech participants noted, real world actions still matter in the real world. According to a 2017 Pew survey of America's global image (based on a compilation of ratings in 37 different countries), the percentage of individuals with a favorable view of the United States has fallen from 64 percent to 49 percent, while those with an unfavorable view increased from 26 percent to 39 percent.[34]

…"we can't depend on the social networks" to support democracy. The United States needs to work collectively to restore the appeal of its own brand. – ***Karen Kornbluh***

What will it take to reverse this trend? Aspen Institute Communications and Society Program Executive Director Charlie Firestone noted that the concept of the American Dream is a kind of "supermeme" based on the promises of economic opportunity and political freedom. The appeal of America, embodied through cultural icons such as Levis, Elvis, MTV and Disneyland, played an important role in winning the Cold War. Felipe Estefan recalled that when he was growing up in Columbia, he listened to American pop music, watched American movies, and was impressed by American success stories. He developed a deep love for the U.S. and wanted to come here. Eventually, he did come and earned a degree in Public Diplomacy from Syracuse University. His story is a good example of the power of pop culture in communicating the appeal of America.

But as Jerry Green, President and CEO of the Pacific Council on International Policy, pointed out, the global decline in the image of the U.S. is ultimately based on its policies and actions. Brand America, which used to stand for great things, now seems to be based on what it is against. Karen Kornbluh wrapped up the discussion by arguing that "we can't depend on the social networks" to support democracy. The United States needs to work collectively to restore the appeal of its own brand.

Pursuing National Interest in a World of Networks

What should American foreign policy look like in the age of networks? What long-standing goals and strategies of diplomacy still hold sway, and where are new approaches needed?

According to Kenneth Weinstein, President and CEO of the Hudson Institute, the country seems to be at an inflection point in its relationship to the rest of the world. Some of the basic assumptions that have shaped American foreign policy—the value of globalization, the vital importance of alliances (NATO, WTO, G7) and trade pacts (NAFTA, TPP), the necessity of supporting democratic institutions and human rights—are being called into question. In particular, the pursuit of globalism is increasingly seen as disproportionately helping elites at the expense of ordinary citizens. The new technology has failed to deliver benefits to a portion of the population. Networks, by definition, benefit those who are connected, and tend to exacerbate the gap between advantaged and disadvantaged, less well-connected groups—rural residents, the old, the poor and minorities.

The reality is that the public has a hard time supporting things that they have a hard time understanding. The world has grown more complex, due in part to the technology that has radically changed the way we communicate with each other and created an environment filled with too much information. In the face of this complexity, there is a sharp decline in the willingness to trust the expertise of experts and a rise in a preference for relying on one's own experiences. The spread of digital networks may "open the door" to democracy, but technology can be subverted for darker purposes. As the Internet has become increasingly pervasive, it has become easier for people to live within their own "filter bubbles" that reinforce their own perspectives and block out opposing points of view. Rather than creating a friendly global village, the Net seems to have fragmented people into a myriad of self-reinforcing, mutually antagonistic tribes ready to do battle with one another.

In the face of this complexity, there has been a sharp decline in the willingness to trust the expertise of experts and a rise in a preference for relying on one's own experiences.

Shanthi Kalathil, Director of the International Forum for Democratic Studies at the National Endowment for Democracy, cited her research that showed that the presence of a network such as the Internet does not automatically lead to democratization. In her 2003 study, *Open Networks, Closed Regimes*, she describes the uses and the impacts of the Internet in eight non-democratic countries (China, Cuba, Singapore, Vietnam, Myanmar, the UAE, Saudi Arabia and Egypt). Kalathil found that "the Internet is challenging and helping to transform authoritarianism…[but] information technology alone is unlikely to bring about its demise."[35]

Ironically, one country that is making good use of network strategies to extend its influence is China. Its "One Belt, One Road" (OBOR) initiative is a vast project to build a new infrastructure along the old Silk Road to link China more closely to Europe. Although it is mainly an economic initiative, the language that is being used to promote OBOR as "the community of common destiny"—opt-in, non-hierarchical, flexible—is very much network-centric. However, when China invests abroad, it is not concerned with building in principles of good governance, which leaves it vulnerable to blowback. The reality is that China sees itself as being at the center of the web it is creating, and that its goal is to expand its influence globally.

At the same time, the U.S. seems to be pulling back from its engagement with the world. As Jerry Green noted, the U.S. is walking away from networks like NAFTA, ASEAN, TPP and NATO that it helped to build in the years following World War II, leaving China to fill the void. Even though American values and American culture give an inherent advantage in competing with China, the country is not taking advantage of them very effectively: It needs to get back in the game.

The old notion that partisanship ends at the border has broken down.

While Americans still seem willing to come together in the face of a dramatic unifying event such as 9/11, that unity has been fleeting. In fact, there are networks that are working to "deinstitutionalize the

U.S." by stoking intolerance, encouraging a fear of the threat of foreign influences and eroding trust in government. The old notion that partisanship ends at the border has broken down.

In this new world, the question is whether the country can use the power of network technology to rebuild a consensus around a foreign policy and to increase transparency of and trust in key institutions. Is this a mission impossible, or can the U.S. make use of what it has learned about how networks operate to reduce divisiveness and find a meaningful common ground?

Not just online. ADDTech participants agreed that network strategies should be an important part of the toolkit of diplomats, even if online networks are not the only way to connect people, and may well not be the ideal way. It is important to remember that the concept of a network refers to online connections, and to any set of connections that can be described in terms of nodes and links. People and institutions have been connected through networks long before the Internet arrived (and before the telegraph introduced the age of electronic networks in the 19th century). It is noteworthy that David Singh Grewel's important 2009 study *Network Power: The Social Dynamics of Globalization* provides a detailed analysis of the power of international networks but does not even include "Internet" in its index.[36] (Grewel focuses his analysis on the benefits and the limitations that come from membership in groups like the World Trade Organization.)

Esther Dyson, a long-time student of technology, stated flatly that if the goal is to build stronger relationships among disparate groups of people, "offline networks are the way to go." Online connections, she noted, make it too easy to be snarky and dismissive of others. The inability to see someone else's body language works against building empathy and diminishes opportunities for nuance.

The Telecommunications/Transportation Tradeoff that Wasn't

Back in the 1970s, at the time of the first "oil shock," when gas prices spiked, the Institute for the Future, a non-profit research group in Palo Alto, CA, conducted a study of what was then being referred to (optimistically) as the "telecommunications/transportation tradeoff." The hope was that virtual meetings could take the place of the real thing, thereby saving money and resources as people substituted electronic media for what was expected to be increasingly expensive physical travel. However, the study concluded that there was, in fact, no tradeoff. In fact, the opposite was true: The more people communicated with others, the *more* they wanted to travel to meet in person, a fact borne out by the steady increase in global air travel that has paralleled the expansion of global communications networks.

Rick Stengel, Senior Advisor to Snapchat and former Director of the State Department Office of Public Diplomacy, agreed that face-to-face (F2F) meetings are the "gold standard" for communications, but acknowledged that arranging for physical meetings on a global scale is labor intensive and expensive. During his tenure at the State Department, he found that the combination of F2F and online connections was a "force multiplier" that is more effective than either one by itself.

Stengel cited the Mandela Fellowship Program, which is part of the State Department's Young African Leadership Initiative (YALI), as an example of the successful combination of online and offline activities. Each year, the Initiative brings over 500 emerging leaders from Africa to the U.S. to take part in a six-week leadership training program at an American college or university, followed by a summit in Washington, D.C. that includes meetings with U.S. political, business and non-profit leaders. After completing their stay in the U.S., Mandela Fellows continue to stay connected through an online network as well as activities in their home countries. The Fellowship has attracted more than 50,000 applicants, and those who are not accepted are invited to participate in YALI's online network that provides access to training courses,

blogs and online events. Juliana Rotich, co-founder of Ushahidi and an active contributor to YALI, agreed that the Fellowship is successful in creating a "true pan-African network," and the best way to support participants in the program is a combination of in-person activities supplemented by online interactions.

Haroon Ullah, Senior Member of the Secretary of State's Policy Planning Staff, agreed that person-to-person connections are probably the most effective diplomatic tool, but the reality in much of the world is that security concerns have turned embassies into "fortresses," and that it is difficult for diplomats to travel freely and meet people. In Karachi, for example, which is one of the most heavily armed cities in the world, diplomats are able to get out of their embassies only once a month. Christopher Hill, Dean of the Korbel School of International Relations at the University of Denver, acknowledged that the "cost of getting out" of an embassy in many countries is high. He recalled that when he wanted to travel in Iraq, he needed to arrange an escort of several dozen security personnel, which significantly limited his mobility.

Given these constraints, diplomacy needs new strategies for building communities of interest that can link foreigners to the U.S. Hill noted that when physical contact was difficult, he would rely on social networks to get his message out to the local population. Even in friendly environments, using modern networks can be useful in extending a diplomat's reach. In Denmark, the U.S. ambassador made a series of highly popular YouTube videos that helped show the local population that "he's just like us." In Kenya, a video of the American ambassador dancing with the Kenyan author of a best-selling book was posted online and had a similar impact in helping to humanize the U.S.

Another possibility is to leverage the potential for "citizen diplomats." Haroon Ullah noted that some 50,000 residents of Karachi have visited the U.S. over the past two decades, but there is no way to identify them and no effort to connect with or follow up with them. Similarly, many American universities maintain networks for their alumni, who span the globe. Geoff Cowan noted that USC has such a network, but he had never considered tapping it to support the U.S. abroad. Americans are, in fact, ready volunteers and might be interested in participating in an informal Diplomacy Corps. Many of the millions of Americans who travel abroad each year welcome opportunities to

meet residents of the countries they visit and share experiences. Most Americans, for example, would be willing and able to contradict ISIS's claim that "there are no mosques in the U.S."

According to Juliana Rotich, another resource that could be mobilized to serve national interests are U.S-based high-tech companies that operate on a global scale and that embody the power of innovation—which has become one of the most attractive elements of Brand America. She suggested that representatives of high-tech companies could be encouraged not to just take care of their business when they travel abroad, but to devote some time to work with local start-ups to impart some of their expertise. The reality is that high-tech entrepreneurs are now rock stars, the equivalent of the performers who helped to spread American culture in the 20th century. Successful entrepreneurs have an opportunity to tap into the power of aspiration, especially among young people, that exists worldwide. In addition, making an effort to connect with local communities can be a powerful way of rebuilding trust on the ground level.

Monika Bickert agreed, and pointed out that while Facebook is not a country, with some two billion users, it is a key player globally. In order to operate successfully on a global scale, Facebook needs to pay attention to subnetworks which may be local governments, civic societies or small businesses. In fact, Facebook has programs all over the world to help people, using technology to scale its efforts. Like national governments, it recognizes the need to personalize itself with the people it wants to work with. In other words, Facebook and its high-tech peers need to be in the diplomacy business.

Implications for Diplomacy

Before becoming Dean of the Korbel School of International Diplomacy at the University of Denver, Christopher Hill had a long career in foreign service that included serving as U.S. Ambassador to Macedonia, Poland, South Korea and Iraq, as well as Assistant Secretary of State for East Asian and Pacific Affairs. He confirmed that we are now living in "the age of networks," and that diplomacy must adapt to function effectively in this new environment in which "horizontal axes are stronger than vertical axes." The biggest problem to be faced is the

relationship of existing institutions—such as the State Department, or even the U.S. government as a whole—to this new reality: When institutions are attacked by networks, how should they respond? How does the U.S. restore trust in its institutions? How can it build a coherent foreign policy when everyone is empowered to express an opinion or is ready to believe that they represent the United States?

Given the limited public funds available to support State Department activities, public-private partnerships will be vital to get the country's messages out to the world.

More specifically, how should diplomats conduct themselves in a networked world? Today's diplomats must be connected to key networks. They not only need to know policy but how networks work, and how they are influencing change. When they get involved in policy disputes, they need to be prepared to be attacked by networks that are often more powerful than formal structures. Diplomats also need to be aware that a comment made in one country can immediately be passed through a network where it can unleash a wave of criticism. (Hill recalled an incident when a comment made by the Secretary of State in another country was immediately challenged in the U.S. by two Senators.)

Some systemic changes are needed if U.S. interests are to be effectively pursued abroad. The solution is not to dismantle existing institutions because they are no longer relevant, but to find new ways to develop and implement foreign policy. Building consistent support for these policies is challenging but necessary. Americans will need to coalesce around a consensus on how they should operate in the world. Given the limited public funds available to support State Department activities, public-private partnerships will be vital to get the country's messages out to the world. And, as networks become more powerful, they need to be made more transparent. The ultimate challenge, Hill concluded, is to rebuild America's standing in the world.

… the best way of dealing with a lack of consensus in this country would be to promote the message that the U.S. is fundamentally about "the clash of ideas." ***-Geoff Cowan***

Geoff Cowan responded by suggesting that the best way of dealing with a lack of consensus in this country would be to promote the message that the U.S. is fundamentally about "the clash of ideas." This concept could empower people in other countries to express their own views and to use networks to connect with others who share them. Charlie Firestone cited a practical example of how this might work: each year, the State Department's Edward R. Murrow Program brings approximately 100 journalists from around the world to the U.S. to learn about American journalistic practices. One of the people who spoke regularly to the group was Bob Woodward who demonstrated that even those who are critical of the President are welcome in the State Department and that free speech is really protected in this country.

Another program that is effective in promoting American values is the State Department's Global Entrepreneurship Summits. These annual events, held in different locations around the world, typically include "workshops, panels, ignite talks, pitch competitions, mentoring, and networking sessions aimed to give participants opportunities to gain skills and relationships that will help their ventures grow.[37]" The most recent summit was held in Hyderabad, India in November 2017 and focused on opportunities for women entrepreneurs. Picking up on a point made earlier, several participants called for doing even more to promote the American values of entrepreneurship and innovation through bringing Silicon Valley to the world.

Improving Diplomats' Network Skills. Even though every Ambassador builds up a network of connections in the countries in which they are posted, many of them fail to pass on their connections when their term is up. Marc Nathanson noted that the State Department now has a policy that every political officer serving abroad

should leave for their successor a sheet of contacts that they have cultivated to provide for a continuity of connections.

Knowing how to use Twitter effectively would seem to be another requirement for networked diplomats. According to Ambassador Hill, every embassy now has an official Twitter account, which it uses to disseminate policy statements and official positions on issues and events. In addition, many Ambassadors maintain individual Twitter accounts, which they use for more personal communications within the country. Rick Stengel added that when he was at the State Department (2013-2016), Twitter feeds from embassies increased five- to six-fold, and all embassy websites were given a common appearance.

Content that stirs emotion is the most powerful means of attracting attention and motivating action….

More broadly, there is a danger that focusing too much on tweeting in order to reach a broad international audience can mean that not enough attention is being given to what is needed locally. And Rick Stengel observed that "all tweets are not as impactful as one episode of *Game of Thrones*." In fact, when he travelled abroad, the question that he frequently was asked was, "When will we get Netflix here?" When Netflix decided to expand to more countries, Stengel got congratulations.

Karen Kornbluh pointed out that the country already asks a lot from its diplomats and expecting them to be able to create and use networks will add further to their burdens. If they are to take on this additional task, they need tools and training in network skills. One place where this could be done is the Foreign Service Institute, which already provides a wide range of in-person and online training programs for the State Department and other government agencies. A program to teach social media skills (which are continually evolving) would be a logical addition to the FSI's curriculum.

Julian Rotich suggested that diplomats be given toolkits that help in creating networks, and trigger the flow of information within networks. Diplomats should also learn about designing empathy into networks

as a way of strengthening social connections. Content that stirs emotions is the most powerful means of attracting attention and motivating action—simply disseminating information may not be the most impactful way to use a network.

The Future of Networks and the Future of Diplomacy

Over the past several decades, digital networks expanded dramatically, linking the world in unprecedented ways. Particularly notable is the growing reach of the Internet, now linking 3.8 billion people, or more than half of the world's population, and the speed with which it enables messages to be communicated. These network connections opened many new pathways to knowledge and give voice to many who lacked it. And networks opened up innumerable opportunities for collaboration that transcends national borders.

The year 2017 has seen a tremendous increase in public awareness of networks and their power. But in the wake of ongoing revelations about large-scale cyber intrusions (Equifax, NSA) and the use of social media by foreign powers to spread disinformation and interfere in internal political affairs in the U.S. and elsewhere, much of the public attention has been negative. Networks and platforms generally viewed as pleasant diversions and benign resources are suddenly cast in a darker, more ominous light. Even leaders of the tech industry are surprised and dismayed by this shift in perception of the products which had been objects of fascination and admiration.[38] If the entire Internet is becoming a battleground for memetic warfare, then everyone is potentially at risk of becoming collateral damage. Finding effective means for coping with the unanticipated negative effects of global networks could well be the 21st century version of the 19th century challenge brought about by the then-new railroad and the telegraph technologies.

For better or worse (or better *and* worse), networks clearly are playing a crucial role on the global stage. On the one hand, networks bring new risks of disruption from foreign adversaries and from non-traditional non-state actors. But they also offer powerful tools that diplomats can use to carry out their mission. In today's networked world, diplomats committed to maintaining an orderly world need to understand and employ network principles.

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APPENDIX

Diplomacy in the Age of Networks

Aspen, Colorado
August 2-4, 2017

Conference Participants

Richard Adler
Distinguished Fellow
Institute for the Future

Madeleine Albright
Chair
Albright Stonebridge Group

Monika Bickert
Head of Product Policy
and Counter-terrorism
Facebook, Inc.

Geoffrey Cowan
University Professor
Annenberg Family Chair in
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and
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and Policy (CCLP)
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Esther Dyson
Executive Founder
Way to Wellville

Felipe Estefan
Principal, Governance
and Civil Engagement
Omidyar Network

Charlie Firestone
Executive Director
Communications and Society
Program
The Aspen Institute

Jerrold Green
President and Chief
Executive Officer
Pacific Council on
International Policy

Christopher Hill
Dean, Josef Korbel School
of International Studies
University of Denver

Shanthi Kalathil
Director of the International
Forum for Democratic Studies
The National Endowment for
Democracy

Note: Titles and affiliations are as of the date of the conference.

Adnan Kifayat
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Gen Next Foundation

Karen Kornbluh
Senior Fellow, Digital Policy
Council on Foreign Relations

Roslyn Layton
Fellow, Center for Communication, Media, and Information Technologies
Aalborg University
and
Visiting Scholar
American Enterprise Institute

Aaron Lobel
Founder and President
America Abroad Media

Marc Nathanson
Chairman
Mapleton Investments

Alec Ross
Distinguished Senior Fellow
Johns Hopkins University

Juliana Rotich
Co-Founder
Ushahidi
and
Executive Director
BRCK, Inc.

Anne-Marie Slaughter
President and Chief Executive Officer
New America Foundation

Nova Spivack
Founder and Chief Executive Officer
Magical

Rick Stengel
Senior Advisor
Snapchat

Haroon Ullah
Senior Member, Secretary's Policy Planning Staff
U.S. State Department

Kenneth Weinstein
President and Chief Executive Officer
Hudson Institute

Tom Wheeler
Visiting Fellow
Brookings Institute

Staff:

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Nathanson Fellow:

Vahaken Mouradian
University of Denver

Note: Titles and affiliations are as of the date of the conference.

About the Author

Richard Adler is a Distinguished Fellow at the Institute for the Future, Palo Alto. He is also President of People & Technology, a consulting firm located in Silicon Valley. His research and writing have focused on the impact of new technologies on fields including business, education, healthcare and aging.

Richard is the author of numerous reports for the Aspen Program on Communications & Society, including: *Diplomacy in the Age of Networks* (2018), *Setting the Communications Agenda for the Next Administration* (2017); *Preparing for a 5G World* (2016); *Rethinking Communications Regulation* (2013); *Updating Rules of the Digital Road: Privacy, Security, Intellectual Property* (2012); and *News Cities: The Next Generation of Healthy Informed Communities* (2011). He is also the author of a series of eight reports from the Aspen Institute Roundtable on Institutional Innovation, including *The Exponential Shift: Rethinking Organizational Business Models* (2017). Richard wrote the initial draft of the report from the Aspen Institute Task Force on Learning and the Internet, *Learner at the Center of the Networked World* (2014) and is currently serving as rapporteur for the Knight Commission on Trust, Media and Democracy.

Other publications include *Catalyzing Technology to Support Family Caregivers* (NAC, 2014); *After Broadband: Imagining Hyperconnected Futures* (Wharton, 2012); and *Healthcare Unplugged: The Evolving Role of Wireless Technology* (California HealthCare Foundation, 2007) as well as two articles on the future of higher education co-authored with John Seely Brown. He has also written a series of columns on the future of broadband technology that have appeared in several online publications.

Richard is Fellow of the World Demographic Association and serves on several local and national boards. He holds a BA from Harvard, an MA from the University of California at Berkeley, and an MBA from the McLaren School of Business at the University of San Francisco.

About the Communications and Society Program

www.aspeninstitute.org/c&s

The Communications and Society Program is an active venue for framing policies and developing recommendations in the information and communications fields. We provide a multi-disciplinary space where veteran and emerging decision-makers can develop new approaches and suggestions for communications policy. The Program enables global leaders and experts to explore new concepts, exchange insights, develop meaningful networks, and find personal growth, all for the betterment of society.

The Program's projects range across many areas of information, communications and media policy. Our activities focus on a broad spectrum of ICT issues such as artificial intelligence, broadband and spectrum policy, racial inclusion in communications, institutional innovation, and diplomacy and technology. Its major activity for 2017-18 is conducting the Knight Commission on Trust, Media and Democracy. The program also runs a project on the future of public libraries.

Most conferences employ the signature Aspen Institute seminar format: approximately 25 leaders from diverse disciplines and perspectives engaged in roundtable dialogue, moderated with the goal of driving the agenda to specific conclusions and recommendations. The program distributes our conference reports and other materials to key policymakers, opinion leaders and the public in the United States and around the world. We also use the internet and social media to inform and ignite broader conversations that foster greater participation in the democratic process.

The Program's Executive Director is Charles M. Firestone. He has served in this capacity since 1989 and is also a Vice President of the Aspen Institute. Prior to joining the Institute, Mr. Firestone was a communications attorney and law professor who has argued two cases before the United States Supreme Court and many in the courts of appeals. He is a former director of the UCLA Communications Law Program, first president of the Los Angeles Board of Telecommunications Commissioners, and an appellate attorney for the U.S. Federal Communications Commission.

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