

Peter Hayes, Joan Diamond and Kiho Yi, "Anticipating Complex Northeast Asian Futures", NAPSNet Special Reports, December 16, 2015, <https://nautilus.org/napsnet/napsnet-special-reports/anticipating-complex-northeast-asian-futures/>

1

I. Introduction

"Another way that civil society has tried to embrace the uncertainty posed by rising complexity is to envision possible shared futures and to develop robust, joint strategies that anticipate the inevitable surprises that lie in store... Just as we must create historical memory across generations and borders if former enemies are to reconcile, so must we imagine futures together to create "complex time" that embodies the universal values in regional and global community." This chapter examines such scenarios and future roles of civil society.

This Special Report is an extract (*Chapter 7*) to the book [Complexity, Security and Civil Society in East Asia](http://www.openbookpublishers.com/product/326/), edited by Peter Hayes and Yi Kiho, published by Open Book Publishers in June 2015 (<http://www.openbookpublishers.com/product/326/>).

To read the entire book or download the free PDF version, [click here](#).

Peter Hayes is Professor, Centre for International Security Studies, Sydney University, Australia; and Director, Nautilus Institute, Berkeley, California.

Joan Diamond is the Senior Scenarist and Deputy Director at the Nautilus Institute. She is the Executive Director of the Millennium Alliance for Humanity and Biosphere, a Stanford University initiative addressing the gap between knowledge of global problems and societies' failure to act.

Kiho Yi is Executive Director of the Center for Peace and Public Integrity at Hanshin University and Professor of King Jeongjo college of Liberal Arts at Hanshin University. Yi is Executive Director of the Asia Regional Initiative (ARI), a think-net in cooperation with the Nautilus Institute for Security and Sustainability.

II. Special Report by Peter Hayes, Joan Diamond and Kiho Yi

Anticipating Complex Northeast Asian Futures

In the previous chapter, we observed how civil society worked across borders in East Asia to create a shared memory of the past in the form of jointly written textbooks of the history of the Japanese invasion and atrocities in Korea, China, and in Japan itself. In this way, civil society started the healing process by creating a unified history of the region rather than a composite of national histories based on memories of horrific events. Far from forgetting or suppressing these events through crude historical revisionism, this civil society approach began a profound cultural reconciliation among these societies by reconstituting the meaning of the memories of grievous harms that resonated across generations and borders.

Another way that civil society has tried to embrace the uncertainty posed by rising complexity is to envision possible shared futures and to develop robust, joint strategies that anticipate the inevitable surprises that lie in store. Such utopias, dystopias, and diverse futures (sometimes called

heterotopias) represent a normative or values-based response to high-impact or uncertain events. Just as we must create historical memory across generations and borders if former enemies are to reconcile, so must we imagine futures together to create “complex time” that embodies the universal values in regional and global community.

Some have attempted to outline national “meta-narratives” for the future, as in Hyeonju Son’s scenarios for the ROK. Son identified five established cultural images of the ROK’s future: (a) becoming a developed country, (b) apocalyptic discourse, (c) national unification, (d) advanced information society, and (e) feminist visions.[1] Some of these shared imaginary futures are dystopic (for example, those related to climate and nuclear catastrophes as delineated in chapters 4 and 5). Others are more utopian (for example, those involving “rurbanization,” *in-situ* urbanization of rural areas, and sustainable cities as described in chapters 2 and 4). Other futures envisioned by civil society, such as the Korean DMZ Peace[i]Park,[2] have been elevated from relatively isolated scientific thinking to state policy in less than two decades.[3] In one instance, scholars working with civil society organizations developed seven detailed “mini-scenarios” for managing the DMZ in an ambiguous, prolonged, and “frozen” present.[4] In another, one author presented a long-term macro-scenario for regional ecological security stretching from Russia and China to Japan via Korea based on the Korean notion of ridgeline-watershed management known as *Baekdudaegan*. [5]

Although such descriptions of collective orientations are insightful, they do not address how complex time emerges within, let alone across, borders in the modern era. By complex time, we mean the experience of time by civil society that arises from the decentralized interaction of different societies. Civil society organizations connect across borders to communicate, coordinate, and collaborate with each other for three reasons. The first is their commitment to universal human values. Citizens may become aware of the plight of people afflicted by a natural catastrophe or by human rights transgressions in neighboring states. Their *cross-border empathy* drives communication across borders between civil society organizations that share these values. Eventually, this leads to an awareness of the need to develop common images of shared futures based on reciprocity.

The second reason is that coordination is required to *create new value* by virtue of generally aligning goals and synchronizing specific actions — for example, between cities attempting to move their respective governments to adopt convergent policies to create common labor, industrial, logistical, or public health standards. Thirdly, collaboration is necessary to achieve a *transnational mobilization* to protect a regional or global commons — for example, by coastal communities and fishermen to prevent or respond to oil pollution — and to establish joint frameworks to manage shared problems based on enduring collaborations, such as the provision of training for environmental management across one border city to another.

Each of these types of cross-border communication, cooperation, and collaboration do not fit easily within the temporal framework of nation-states or national cultures. Communicating across borders, coordinating activities, and collaborating to bring about a joint result are lived experiences at the individual level that inform personal identity and change how individuals associate. Once touched, they can never again become isolated from the external world.

At the same time as civil society engages in specific, networked activities across borders, the external world is merging with internal, local worlds as lived by individuals and communities. Today, a vast, continuous web of instantaneous communication such as Voice-over-Internet Protocol (VoIP) connects individuals and communities who previously lived in disparate, asynchronous time (seasonal, cultural, work-related, or national). Such “concurrent” (simultaneously on-line) communications involve millions of individuals in China, South Korea, and Japan (the predominant VoIP users in the region who, when considered as an aggregate, are a majority of the global users of VoIP). [6] A significant fraction of these VoIP conversations— perhaps a million voices at a time —

cross borders and form a constant, warm shower of “soft” social communication that bathes both sides of “hard” state-based territorial borders. Like a virtual “acid rain,” this communication corrodes border infrastructure even as it flows unhindered by the fences, gates, barbed wire, and minefields in some cases.

This flow of continuous communication transcends the state-based demarcation of time and space at national borders that separates people, preserves national identities, and reinforces diplomatic and military power. VoIP (and other forms of streaming culture, such as real time radio and video broadcasts over the Internet) supplant it with a civil society-based integration of space and time, a form of continuous virtual mobility that reaches into even the hardest state in the region, North Korea. It interrupts “heterochronicity”^[7] or the dominant linear national historical narrative and its cyclical updating of the present state of affairs with reference to past Golden Ages or core events in the construction of the state such as wars, revolutions, or liberation from colonial occupation. It offers a hopeful future orientation to the lives of millions of people. Each VoIP call across borders is a tiny building block for creating a new regional identity and community, one person at a time, millions of people per second. It cannot obviate the need for face-to-face meetings and physical cross-border mobility, but it can substitute while such mobility is constrained by state border controls.

The unstoppable, cumulative effect of the civic diplomacy and networked civil society strategies outlined in previous chapters is to create a new form of shared time, congruent with the unified space of common problem-solving.

We distinguish this shared time by its orientation towards joint problem-solving across borders — at the individual, familial, community, and city levels. In this regard, it subverts and recasts the past (backwards-looking time in Western cultures, as epitomized by the way time is referred to in the English language as linear and “behind” the present, whereas in the Chinese language, forwards-looking time refers to history lying on top of the present moment). These temporal frames are defined by and within each nation states. These latter time-frames that define national and individual identity are constituted by references to core historical events that punctuate time for different generations or cultures; by asynchronous time rooted in varying patterns of time in institutional domains; and by non-contemporaneity, or the coexistence of different societal time-frames due to co-evolving stages of social evolution — all of which tend to differentiate and separate people.^[8] The new, shared temporality based on joint problem-solving is a hybrid of these interrupted temporalities. In the context of cross-cultural “scenaric” thinking, it incorporates backward-leaning time in the form of historical knowledge and wisdom with forward-leaning time driven by joint problem-solving, thereby expanding the cultural diversity incorporated into our understanding of the long “present” that includes at least six generations — three born roughly a century ago and three who will live for another century.

Northeast Asia 2050: Is There a Role for Civil Society in Meeting the Climate Change Challenge?

The explicit creation of imaginary futures is one way in which cross-cultural groups meeting across borders have explored the true uncertainty posed by complex global problems in Northeast Asia and envisioned shared futures and joint responses to the challenges posed by these imaginary futures. In 2009 and 2010, the authors convened and participated in just such an exercise involving participants from the ROK, China, Japan, and the United States.

The 2009 Seoul workshop posed the focal question: “Northeast Asia 2050: Is there a role for civil society in meeting the climate change challenge?” Rather than focusing on the mitigation of greenhouse gas emissions that contribute to the problem of global climate change, the workshop

reframed the question to ask how best to adapt to climate change. They asked: “Who can possibly help us prevent the most devastating impacts of climate disruption and how can this be done given the great uncertainty associated with possible impacts?”^[9]

We recognized that many drivers that would determine the effectiveness of civil society in bringing about adaptation to climate change in 2050 were unpredictable in either occurrence or size of impact, but also that they were potentially very powerful. The degree to which climate impacts were incremental or highly disruptive, and whether the response to these impacts was based on regional cooperation or on uncoordinated national actions, framed the four scenarios developed in the workshop. A team representing multiple cultures, countries, ages, professions, and perspectives developed each scenario into a narrative format of a future time.

In the first scenario, “Asian Carbon Union,” which combined regional cooperation and major climate disruption, catastrophic climate events force the countries of the region to cooperate to adapt to the new realities. The result is greater regional integration and a setting aside of historical differences. The two Koreas reunify. Regional cooperation occurs to overcome “mad pig disease” in China. Shanghai and Tokyo build massive seawalls that stave off a super-cyclone in 2020. By the end of the period, Asia establishes a common currency, super-cheap solar cells are in general use, and all countries participate in a carbon emissions control scheme that forms the basis of a global agreement in 2050.

The second scenario, “Divided World, United Regions,” combines uncoordinated national actions and incremental climate change. The world is divided and climate change accelerates, but the region unites as climate shocks from super-typhoons that hit Osaka and Tokyo force it to work together on regional and/or bilateral levels to address environmental problems such as yellow sand and acid rain, with solutions including the transfer of clean coal technology from Japan to China. This allows countries to adapt so that, by 2050, they are on the path to low-carbon, sustainable societies.

In the third scenario, named “Out of the Ashes, a Lily is Born,” a series of relatively small climate shocks force the countries of East Asia to come together to address climate change. Chinese air pollution greatly affects Korea and Japan. Civil society and private enterprise take the lead in promoting adaptive strategies and developing green technologies. A terrorist nuclear attack in the Middle East traced back to Japanese plutonium forces Japan to abandon reprocessing and begin accelerating renewable energy and battery technology. Economic recession leads to the collapse of China’s auto industry and forces political transition, prompting the first green party in China. Based on the new battery, a green Chinese car is produced — the Lily — and it forms the foundation of a massive Chinese export industry. In turn, a regional “green summit” is held, and regional networks for sustainable transport, food production, and energy are constructed. By 2050, networked local communities focused on sustainable lifestyles are the basis of a regional community.

In the fourth scenario, based on major climate shocks and uncoordinated national action, the region enters the “Spring-Autumn Period,” the name suggesting a continuous cycle of growth and decay. States are overwhelmed by the onslaught of massive climate change impacts and cities are rebuilt around fuel type as the key adaptation. World trade collapses and a series of super-typhoons hit Northeast Asia, devastating coastal cities such as Tokyo, Shanghai, and Busan. At first, people try to rebuild in the old places, but continuous typhoons and flooding force them to reconsider. By 2020, Tokyo starts rebuilding to withstand hurricanes, but Shanghai is abandoned, while in Busan, people move into hillier areas and away from the shore. With the destruction of sea ports, global trade is now practically nonexistent. This in turn undermines the tax base and thus the power of central governments. Cities must therefore survive by providing their own food and energy.

Three types of cities emerge — coastal-sea access, coal-based, and bio-fueled. Each type develops

autonomous energy structures based on locally available resources. Cities with access to the sea, such as Tokyo, extract uranium from seawater to fuel nuclear power plants. Because of the focus on high technology, they develop highly technocratic and authoritarian systems. They also develop nuclear weapons as a means of defense. With widespread electrification, these cities rely on a combination of surveillance and electronic entertainment to keep the people pacified. Most people outside of the nuclear priesthood work in the service sector and entertainment industries. Those cities located near coal deposits, like Wuhan in China, rely on coal, but with large-scale carbon capture and storage to prevent emissions. This carbon capture and storage requires massive infrastructure with endless mazes of mines, factories, pipes, and tunnels to mine the coal, process it, burn it, and store the emissions. This requires large stores of unskilled labor, leading to frequent labor strikes and crackdowns on unions. The cities rely for defense on a kind of “doomsday device,” whereby any attack on the city would release the carbon into the atmosphere, causing equal disaster for the attacker.

Cities with available arable land, such as Busan, develop bio-fuels to survive. Because environmental conditions have made the large-scale agriculture of the past unsustainable, new methods to grow plants for fuel with a minimum of land or water need to be developed. This, together with the actual transformation of plants into fuel, requires a highly skilled, scientifically literate population. As a result, the bio-cities have a highly educated population and more egalitarian system than in the other cities. But they too rely on the deterrence of weapons of mass destruction – in their case powerful biological weapons. The reduction of arable land forces people to turn to alternative food sources, largely developed in the biofuel cities. New forms of high-protein mushrooms are introduced that provide high amounts of nutrition with a minimum of input. Scientists also develop “in vitro meat” — cloned tissue cultures that provide animal protein without requiring actual livestock. These are popularly known as “stem-cell burgers.” Outside of the cities is a sort of “wild west” of pirates, brigands, and rebels who disrupt trade between cities or serve as “cat’s paws” for particular cities in their battles against others.

In these imaginary futures, participants not only envisioned radically divergent futures from those that might emerge from mere extrapolation from the present. They also identified how civil society might have intervened to move the worlds of 2050 to more secure and sustainable outcomes. They were able to identify robust strategies to this end that were relevant to all of the four future worlds. These strategies illustrate the inter-related nature of a spectrum of climate-driven problems and their respective solutions. We found that no fewer than five generic robust strategies warrant the development of civil society action plans today to embrace uncertainty about the future. These were:

1. **Regulate and Reward:** regulation and financing such as the Green Fund played a crucial adaptation role in managing climate change in more than one scenario.
2. **Localization:** strengthening local civil society and local governments, shifts in factories, farming, education, and green development can be implemented much more quickly than by waiting for central government to affect change at the small community level.
3. **Legal Frameworks:** governing responses to climate change at multiple levels led to the need to create new legal frameworks based on civil society such as a “Civil Court for Climate Change.”
4. **Sustainable Food:** developing sustainable food supplies was identified to be critically important in Japan, China, and South Korea.
5. **Adaptive Unification:** integrating the DPRK in a climate-challenged region as an equal partner in the network of adaptive response was critical, albeit more difficult than it sounds because the DPRK has almost no civil society today.

Identifying such visionary steps is vacuous unless accountabilities are specified and capacities to enforce compliance with new regimes and institutions are mobilized. That is exactly the task with respect to responding to the climate problem undertaken by many civil society organizations in the region, as we outlined in chapters 2, 3, and 4. To develop a common agenda for action that sets milestones for realizing such strategies requires that each participant incorporate his or her accountability in these joint strategies into his or her own temporality. This shared time must be constantly updated and renegotiated to overcome division, fragmentation, and conflict inherited from the past that otherwise precludes or obstructs communication, coordination, and collaboration across borders required to solve global problems. This shared time may be termed complex time, meaning the adjustment of pre-existing patterns of time inhabited by civil society actors to the demands for new patterns of activity generated by complex global problem-solving and synchronized in new ways across borders.

Will East Asia Mega-cities be Secure and Sustainable by 2050?

In the second workshop held in 2010,[\[10\]](#) also in Seoul, the focal question was: “Will East Asia Mega-cities be Secure and Sustainable by 2050?”

Like the 2009 workshop, the participants were from China, Australia, the ROK, and Japan, plus the United States, and were diverse in generation, gender, and disciplines. They enumerated drivers that would affect the answer to the focal question, including nanotechnology and energy-related developments; pandemics; the effects of climate change, including drought, sea level rise and changes in agriculture; shifts in public policy at the inter-governmental, city, state and local levels; the increasing ease of communication across languages; global economic crisis and recovery; migration and population diversity; regional vs. national identity; terrorism; global stress causing psychological meltdowns in the population; nuclear war in Korea; low birth rates; and Korean unification, among others. This vast terrain of uncertainty boiled down to two spectra that framed four scenarios: (1) the degree to which the economies of the region become “green” (connoting sustainable and clean practices) and strong as opposed to “brown” (referring to fossil fuels and pollution) and struggling and (2) the extent to which the region becomes geopolitically secure and stable versus insecure and disorderly.

The first 2010 scenario, “The Dark Age of the Mega-city,” combines regional instability with weak and struggling economies. By 2050, states in Northeast Asia have invested mostly in conventional fossil fuels and nuclear energy, and US forces are retreating from the region due to financial crisis. Energy supplies, including offshore gas, are increasingly subject to military considerations. In 2030, a nuclear meltdown near Shanghai that sends fallout over Korea and Japan triggers regional recession. Environmental degradation and the impacts of climate change lead to food shortages and disease, which heighten tensions within major cities in Northeast Asia, particularly between ethnic groups. Major cities are divided into ethnic enclaves with hostile relationships among neighbors. By 2050, in this dystopic future, despair results in a societal psychological meltdown characterized by high suicide rates, hopelessness, low productivity, and the deterioration of the family unit in Japan and Korea. By 2050, the megacities of Northeast Asia are economically and culturally depressed. They are dark, polluted places full of despair and ethnic conflict.

In the second scenario, “Droughts Yield a Green Tomorrow, or From Gulag to Garden,” the world in 2050 is characterized by regional instability and a strong green economy. In this narrative, whole watersheds in China collapse ecologically and force refugees to move into North Korea and Russia. The resulting food shortages in the DPRK lead to a coup by the modernizing military who decide to rejoin regional intergovernmental dialogue. In 2025, the United States, China, and South Korea support the transformation of Pyongyang into a world-class Green City. Civil society, corporations, and the former DPRK military capabilities rapidly undertake various economic projects and soon the

infrastructure for jobs and development is strong. In 2028, a light railway system is constructed in Pyongyang as the city evolves into the “New Dubai” with the development of “Pyongsong” fuels, a renewable energy source. The new wealth and living conditions trigger a “Pyongsong” population boom — the wider Pyongyang-Kaesong population hits 10 million and, by 2050, instability in the region returns because the infrastructure cannot support the burgeoning population in the DPRK.

In the third scenario, “Green Gold Giga-City,” the world in 2050 is characterized by regional stability and successful green economic development. The transition from Kim Jong-il to political reforms under his son Kim Jong-un moves faster than expected. Russia rapidly completes a train and gas pipeline to the ROK via the DPRK. In 2018, the ROK and DPRK presidents share the Nobel Peace Prize for creating a regional nuclear weapons-free zone, and the influence of the United States diminishes by the day. In 2028, Pyongyang hosts the Olympic Games. In 2030, China adopts a multi-party system. Technological change — a bio-chip that makes it possible to talk and instantaneously understand conversations in other languages, plus bio-fuelled or nuclear-electric cars — is widely adopted.

With one common market, many small cell-cities are networked into a billion-person or giga-city connected functionally, but not subject only to hierarchical rule by states. By 2050, cooperation to solve the problems of the giga-city is strong. By 2050, the giga-city of Pusan-Seoul-Pyongyang-Sinijui runs across the border and all the way down the northeast coast of China from Dandong to Shanghai, and Shanghai is connected with a tunnel running across the Bohai Gulf. Food production relies on industry, nutrients from sewage recycling, and, on the oceanic side, aquaculture integrated with massive tidal power structures. The region becomes fortified against storm surge, storms, and extreme wind. It has mastered the art of adaptation to bring hope and happiness to the denizens of the world’s first giga-city.

In the fourth scenario, “Jaws,” the world in 2050 is characterized by a struggling green economy and by regional stability and cooperation. Between 2010 and 2030 nuclear energy grows at a rapid rate. By 2030, it supplies 65 percent of energy in the region in the name of green growth. Unfortunately, the decrease in climate disrupting emissions is too late to protect the region from 47cm of sea level rise. In 2028, the Olympics are held in North Korea, and while reunification does not occur in this scenario, the international validation and recognition of the DPRK fosters economic cooperation between the two Koreas and results in increasing stability for the entire region.

In 2040, a massive earthquake triggers a tsunami that is exacerbated by the increased weight of the sea wreaking havoc upon disaster as the region’s nuclear plants located on coastal shores are destroyed. These seemingly innocuous nuclear plants on the Northeast Asia seaboard are the “Jaws,” the invisible sharks beneath the surface, which once awakened by the earthquake destroy that most basic infrastructure system: energy. In addition to the meltdown of the nuclear power plants, the mega-cities themselves suffer extreme damage. Levees break and communities go underwater. Flooding, homelessness, disease, and suffering abound.

The region is saved from despair by the foundation of good-will built up over the preceding three decades, which triggers international aid, although it is soon clear that what is rebuilt will not look like what was destroyed. Individual communities feel their governments failed them by relying so heavily on nuclear power and begin to shift focus towards more local governance and decentralized political systems. More threatening, however, is the shift away from nuclear and back to fossil fuel and climate-changing energy technologies.

The Jaws scenario reveals the premonitory power of imaginative thinking by cross-cultural, diverse groups of people. Only five months after developing the Jaws scenario, the 3/11 earthquake and tsunami devastated northeastern Japan, with global ramifications. The catastrophe came three

decades earlier than envisioned in the Jaws scenario, but the lesson learned — how civil society must act to save itself when governments fail — is still playing out. Moreover, the 2010 scenario was not the only cross-cultural recognition that such an event could occur, and that the possibility called for a multi-national response.

Indeed, in 2007, Japanese, South Korean, and American military officials met to discuss scenarios which presented decision-makers with a “chain of regional crises for which they must analyze various possible measures to enhance tripartite collaboration in dealing with disaster, particularly centered on the military’s role and capabilities in support of overall national objectives.”[\[11\]](#) In one of these scenarios, the US military posited a major earthquake near Hokkaido, which sends a tsunami shoreward that causes carnage along the coastline and in port cities and damages two nuclear reactors. “Communications and assistance to the affected areas are being hampered by the poor conditions of infrastructure resulting from the long cold spell. The picture at the moment is bleak and information sparse.”

In reality, after 3/11, tripartite military cooperation to respond to the tsunami and the Fukushima catastrophe was nearly non-existent. The US military played a major role in supporting the Japanese Self Defense Force. But Japanese civil society was left to fend for itself while the Japanese central government response was weak, confused, and generally resistant to accepting external assistance, even when offered by the ROK. Civil society, however, responded strongly. South Koreans donated \$ 32 million to the relief effort in the first few weeks,[\[12\]](#) and 3/11 still resonates in the region, especially by fuelling skeptical voices about the future of nuclear power in the ROK and China.

Conclusion

In this book, we argue that the future of global and regional security and sustainability is becoming more complex over time. As many will attest, the future itself is experienced as fractured, discontinuous, divergent across and within borders, and even regressive (as in the DPRK, where time stands still or goes backwards). In short, the future is increasingly uncertain in ways that cannot be predicted.

This uncertainty is inherent in the displacement and discontinuity caused by the globalization of every aspect of human existence — economic, political, cultural, technological, and even ecological — the basis of life. Also, the memories of key defining moments of the past — great catastrophes, wars, and protracted emergencies — are redefined or shed with each generation that passes. New crises form the basis of the identity and orientation of rising leaders towards the future. Some challenges such as climate change may lead to such radical outcomes that core elite beliefs — for example, that economic and technological modernization are inherently progressive — are rendered obsolete and even absurd, with consequences for the political legitimacy of the entire state. Although common causes drive problems such as climate change, the uneven distribution of positive and negative climate impacts may subvert the notion that shared futures are desirable within and between nations and societies.[\[13\]](#)

Other global and regional problems that cross borders and make societies interdependent on a scale and pace never before seen in human history — the threat of global pandemics, for example — lurk in the wings, waiting for a tipping point to be exceeded that calls them to lurch onto center-stage. When they do, we can expect some states to close borders in a desperate attempt to stave off viral transmission — as if we could control the movement of birds or people in a timely manner from the viewpoint of mutating viruses.

Currently, historical disputes pitting China and the ROK against Japan divide and separate rather than integrate and unify the region. Indeed, in many respects, Northeast Asia is more of an anti-

region than a regional community. Such antagonistic dynamics are more powerful for many people than those associated with universal values, common culture, and hybrid identities grounded in shared experience, especially when demagogic leaders stir the pot with nationalist narratives designed to scapegoat the other and the outsider — the true politics of ire. Such division, confrontation, and fragmentation make it more difficult to agree on the importance of common problems and the implementation of shared solutions.

The word complexity, or 複雜 in Chinese, suggests something that is complicated, intricate, and has many parts. 複雑 in Japanese, the phrase has connotations of “enfolding,” as if hidden in layers of clothing, with resulting opacity as to what lies below the outermost layer. in Korean, it has a similar meaning, but carries no inherent connotation of goodness or badness — the significance of complexity is context-dependent. In Chinese, Japanese, and Korean, the noun does not carry the baggage that it has in English, wherein the original word has more of a sense of intertwined braids that are so snarled as to be not only complicated, but also incomprehensible or inexplicable — and therefore possibly to be feared (this English meaning in English originated in the 17th century from the Latin *complexus* and entered the lexicon via French). Only in English does the word carry the modern, scientific meaning of “complexity,” referring to an open, self-organizing system constituted by many, diverse elements and characterized by non-linear change and discontinuous change (see chapter 2). As the modern meaning of complexity in English carries many connotations of change, it is linked inherently to concepts of time, which flows differently in China, Korea, and Japan, depending in part on how “westernized” the society has become. Thus, how a given civil society or individual perceives complex global problems is laden with temporality, which will also inform their response, thereby contributing to a shared “complex time” when the response is cross-cultural and cross-border.

Just as cultural orientations towards “complexity” differ in subtle ways across cultures, borders, and languages, so nation-states employ different overarching strategies to absorb the impacts of unpredictable, catastrophic events such as tsunamis, financial crises, or wars. Thus, the Chinese state relies on the sheer mass of its economy and the breadth of its geography to absorb body blows and supplements local and provincial capacities with centrally directed resources, especially military ones.

In Japan, after its remaking by the American Occupation and its aftermath, the central state planned many aspects of life top-down in infinite detail, including for contingencies, although some areas were simply neglected or left to the corporate sector. The latter dynamic accelerated with deregulation and liberalization in the 1980s. Thus, when ambushed by real world catastrophes like the 3/11 earthquake and tsunami, the central state was immobilized and corporate management collapsed, whereas local civil society and local governments improvised recovery strategies from the bottom-up, relying on decentralized social capacity to respond to catastrophe. In contrast, the South Korean state relies heavily on its ability to redirect corporate entities to adjust quickly and mobilize capacity to respond to challenges and exploit opportunities with agility.

However, each of these state-centered strategies has fallen short of an effective response in the face of complex major events — the ROK in the face of the North Korean nuclear breakout in 2006 onwards, China in response to the 2008 Sichuan earthquake, and Japan in the aftermath of the 3/11 earthquake and tsunami. In each case, civil society organizations stepped forward to carry much of the load of emergency response. We suggest that in the case of many urgent regional security and sustainability issues, such as migration, energy and urban insecurity, nuclear weapons, and climate change adaptation, it is civil society organizations that cross borders to create transnational networks that anticipate future crises. By doing so, these civil society organizations create a new layer of social complexity commensurate with that of the emerging problem-terrain.

The conduct of civic diplomacy as outlined in this book requires inspirational vision as well as skillful networking and specialized capacities from civil society. In reality, all people inhabit civil society in some manner, including those located in formal institutions of the state and in the corporate-market sector. To be effective, civil society strategies of engagement and collaboration must involve ordinary citizens, not just officials, corporate leaders, or senior scholars such as mostly appear at the Asan Institute or the Jeju Forum. It must include the lowest-ranking member of status hierarchies as well as the super-elites, not least because the former do so much work that is invisible for much of the time, but because as farmers, fishermen, cleaners, miners, recyclers, they do many jobs on which everyone else depends.

If civil society is to be truly effective in solving linked global problems, then everyone must mobilize in one way or another. Everyone has a significant role to play. All voices must be heard. No one can be forgotten or left behind for the simple reason that no one can predict which butterfly amongst millions may cause a hurricane. No one knows who will invent desperately needed solutions to urgent global problems.

III. References

- [1] Son, H., "Images of the Future in South Korea," *Futures*, 52(0) (2013), doi: <http://dx.doi.org/10.1016/j.futures.2013.06.001>
- [2] Lee, S.H. (2010).
- [3] 3 Hayes, P. and Cavazos, R., "An Ecological Framework for Promoting Inter-Korean Cooperation and Nuclear Free Future: A DMZ Peace Park," *NAPSNet Special Report* (2013).
- [4] See Ali, S., "Designing Ecological Peace in the Koreas," *National Geographic Newswatch*, 23 December 2011, <http://voices.nationalgeographic.com/2011/12/23/designing-ecological-peace-in-the-koreas>
- [5] Hayes, P. (2010). On Baekdudaegan, see Choi, Y., "Baekdudaegan, the Central Axis of the Korean Peninsular: The Path toward Management Strategies Regarding to Its Concepts," in *Ecological Issues in a Changing World Status, Response and Strategy*, ed. By Hong, S.-g. and Hong, S.-K., et al. (Berlin: Springer, 2004).
- [6] See Point Topic, *VoIP Statistics - Market Analysis, Q1 2013* (London: Point Topic, 2013). Russell, J., "Think Skype Is Big? Go See How Many People Are Using Tencent's QQ Right Now," *Nextweb blog*, 27 June 2012, <http://thenextweb.com/asia/2012/06/27/think-skype-is-big-go-see-how-many-people-are-using-tencent-sqq-right-now>. Caukin, J., "40 Million People: How Far We've Come," *Skype Big Blog*, 10 April 2012, <http://blogs.skype.com/2012/04/10/40-million-people-howfar-weve/> Wireless Federation, "Regulators Enable Mobile Operators to Charge More Fees for VoIP (South Korea)," *ICT Statistics Newslog*, 17 July 2012, <http://www.itu.int/ITU-D/ict/newslog/Regulators+Enable+Mobile+Operators+To+Charge+More+Fees+For+VOIP+South+Korea.aspx>
- [7] Callahan, W.A. (2004), p. 28. Callahan refers to heterochronicity in relation to the cultural construction of "Greater China," but the point is generally applicable.
- [8] Bernhard Giesen distinguishes between three types of "temporal inconsistency" within a society,

but the same types may be examined across cultures. Giesen writes: “‘Noncontemporaneity’ refers to the local and temporal coexistence of phenomena that are related to different historical periods or different stages of social evolution... ‘asynchronicity’ centres [on] the differences of pace and rhythms between different social systems or institutional domains... ‘divided memories’ are generated by different experiential backgrounds with respect to the perception of core events.” Giesen, B., “Noncontemporaneity, Asynchronicity and Divided Memories,” *Time & Society*, 13(1) (2004), doi: <http://dx.doi.org/10.1177/0961463X04040741>

[9] Nautilus Institute, *et al.*, “Northeast Asia 2050: Is There a Role for Civil Society in Meeting the Climate Change Challenge,” in *Civil Society Scenarios Workshop* (Seoul: Nautilus Institute, 2009). The description of the 2009 scenarios in this chapter are drawn from this report.

[10] Nautilus Institute, “Will East Asia Mega-Cities Be Secure and Sustainable by 2050?,” in *Global Scenarios 2010* (Seoul: Nautilus Institute, 2010). The description of the 2010 scenarios in this chapter are drawn from this report.

[11] See “140 Chain of Disasters,” in *Open Scenarios Repository* (Alexandria: United States

Institute for Defense Analyses), [http://openscenarios.ida.org/docs/Open-Scenario-](http://openscenarios.ida.org/docs/Open-Scenario-Repository-06-25-2010-2.pdf)

[Repository-06-25-2010-2.pdf](http://openscenarios.ida.org/docs/Open-Scenario-Repository-06-25-2010-2.pdf) The scenarios exercise involved IDA, Korean Institute of

Defense Analysis (Seoul), National Institute of Defense Analysis (Tokyo) and the Office

of the Secretary of Defense, U.S. Department of Defense. The description of the scenario

is drawn from this spreadsheet.

[12] Borowiec, S., “Tsunami Diplomacy: South Korea and Japan,” *The Global Post*, 3 April 2011, <http://www.globalpost.com/dispatch/news/regions/asia-pacific/south-korea/110331/south-korea-japan-tsunami-aid>

[13] Beck, U., *et al.* (2012).

View this online at: <https://nautilus.org/napsnet/napsnet-special-reports/anticipating-comp-ex-northeast-asian-futures/>

Nautilus Institute

608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email:

nautilus@nautilus.org