Climate Change and International Relations Theory: Northeast Asia as a Case Study

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Abstract:
This paper is an exploration of the broader relationship between climate change and international relations theory. A general assumption holds that the anarchic international system of competing sovereign states who are unitary, rational actors. This view, however, disregards the fact that the anarchic system of sovereign states is itself housed within the wider structure of the Earth's biosphere. How then does international relations theory account for the influence on the international politics biospheric transformation, as is occurring with climate change? The paper begins with a brief synopsis of the academic treatment of the environment, climate change and international relations theory. It then summarises the climate change hazards likely to impact on Northeast Asia, as identified in the Working Group II contribution to the 2007 International Panel on Climate Change (IPCC) Fourth Assessment Report (Cruz et al 2007). Next, the paper will examine the Northeast Asian political environment from the perspective of each of the three primary international relations theories—realism, liberalism and constructivism—before providing an ontological critique of each. The paper concludes that *in the absence of an ontological reassessment* of international relations as a system of constituent parts, as well as a constituent part in its own right of the larger Earth system, analysts are likely to view Northeast Asia as a progressively more Hobbesian regional system as a result of growing climate-driven scarcity pressures and human insecurity.

Introduction

This paper is an exploration of the broader relationship between climate change and international relations theory. A general assumption holds that the anarchic international system consists of competing sovereign states who are unitary, rational actors. This view, however, disregards the fact that this anarchic system is itself housed within the wider structure of the Earth's biosphere. How then does international relations theory account for the influence on the international politics biospheric transformation, as is occurring with climate change? This raises a number of related questions: does climate change challenge the dominant view of human societies as separate from the environment? If so, can we continue to assume the centrality of the state as the primary actor in international relations? What non-state actors play an important role in international relations, in the context of climate change? Finally, with those questions in mind, which of the three dominant international relations theories have greater explanatory and prescriptive power in a climate-altered world? The paper will attempt to explore these issues as a stimulus for further discussion.

These questions are examined in the context of the international politics of Northeast Asia. There are two reasons for this selection: First, Northeast Asia is the author's area of expertise and thus the region of greatest familiarity. Second, Northeast Asia is a fascinating strategic milieu that escapes ready explanation according to any single international relations theory, because none of the dominant international relations theories "provides a completely satisfactory explanation of the geopolitical dynamics of Northeast Asia as a whole" (Alagappa 2008; Kim 2006, 181; Friedberg 2005; Katzenstein & Okawara 2001/02)."[1] Indeed, regional interactions exhibit characteristics of realism, liberalism and constructivism, making Northeast Asia an excellent selection as a regional case study for the interplay between climate change and international relations theory.

Rather than break new ground, this paper will attempt to flesh out some of the implications of climate change for the construction and application of international relations theory. The paper begins with a brief synopsis of the academic treatment of the environment, climate change and international relations theory. It then summarises the climate change hazards likely to impact on Northeast Asia, as identified in the Working Group II contribution to the 2007 International Panel on

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[1] In deference to this heterogeneity, Wight (1991, 268) encouraged international relations scholars to "move round the circle" of international relations theory and "enter into a position without settling anywhere," as an explicit rejection of extreme paradigmatic fidelity. This theme was picked up by Katzenstein and Okawara (2001/02, 167), who argued for "analytical eclecticism," a utilisation of insights from multiple theoretical traditions and consideration of causal mechanisms at multiple levels of analysis.1 In the absence of a strong *a priori* commitment to any one analytical perspective, the researcher has the capacity to address complicated foreign policy problems free from the confines of a single paradigm.

Climate Change (IPCC) Fourth Assessment Report (Cruz et al 2007). Next, the paper will examine the Northeast Asian political environment from the perspective of each of the three primary international relations theories—realism, liberalism and constructivism—before providing an ontological critique of each. The paper concludes that *in the absence of an ontological reassessment* of international relations as a system of constituent parts, as well as a constituent part in its own right of the larger Earth system, analysts are likely to view Northeast Asia as a progressively more Hobbesian regional system as a result of growing climate-driven scarcity pressures and human insecurity.

Environment, Climate Change & IR Theory

Early interest in the political implications of environmental degradation stemmed from an appreciation that human societies were bounded by ecological limits, the breaching of which could lead to socio-economic catastrophes (Erlich 1968; Hardin 1968; Kennan 1971; Meadows *et al* 1972; Brown 1977; Catton 1982). Generally these works foretold of *future* doom, warning of problems developing over relatively long time horizons. Security studies analysts conceptualised environmental degradation as a security threat, with growing sophistication over time and increasing emphasis exclusively on climate change (Westing 1980; Gleick 1991; Homer-Dixon 1991; Myers 1993; Orme 1997-98; Barnett 2003; Campbell 2008; Mazo 2010). Over the same period, as global commons problems such as ozone depletion and global warming became salient in international affairs, several thinkers began discussing multilateral environmental agreements (Haas, Keohane & Levy 1994; Susskind 1994; Yamin & Depledge 2004) within the broader field of international regimes (Ruggie, 1982; Krasner 1984; Keohane 1984; Russett & O'Neal 2001). Several scholarly monographs also began to provide a multi-theoretical treatment of the environment in international relations (Eckersley 2004; O'Neill 2009), or expanded the realm of international theory to include concepts such as complexity from other disciplines (Alberts & Czerwinsk 1997; Jervis 1997; Kavalski 2007).

Climate Change Impacts for Northeast Asia

Northeast Asia is the case study through which this paper will examine the interplay between climate change and international relations theory. To accomplish this task, it is necessary to understand the nature of climate change impacts likely to affect the region. The following climate change impact and vulnerability assessment is based on the methodology found in the Working Group II contribution on Asia (chapter 10) of the *Fourth Assessment Report* of the International Panel on Climate Change (Cruz *et al* 2007), with additional information included from other scholarly sources. The IPCC methodology groups climate change impacts into six categories: agriculture and food security, hydrology and water sources, coastal and low-lying areas, natural ecosystems and biodiversity, human health, and other non-biological human dimensions. This section will provide a summary of each category of impacts as the basis for the theoretical exploration to come.

Agriculture and Food Security

Northeast Asia can expect growing food insecurity due to climate change, in combination with environmental degradation directly attributable to human development activity. On the supply side, the erosion of the arable land stock is likely to decrease agricultural production, as will an increasing incidence of agricultural pests and diseases. Rising average temperatures are predicted to depress crop yields across the region, with grain crops particularly susceptible to climate variations (Cruz *et al* 2007, 483). For example, in northern China, the agriculture-pasture land transition that signifies a climate zone boundary is pushed southward, decreasing the stock of arable farmland and leaving new grassland areas vulnerable to desertification in combination with human-induced degradation (Chen 2005, 371). The direct impact on the temperature tolerance of crops is compounded by changes to precipitation patterns, length of the growing season, the intensity and timing of extreme weather events, and increased exposure to plant pests, weeds and diseases. The aggregate impact of damage to agricultural systems and fisheries is likely to exacerbate food insecurity across Northeast Asia (Cruz *et al* 2007, 482).

Adverse climate impacts will compromise the ability of the region's populous states to produce sufficient food for their large, growing populations and encourage greater reliance on imports. Given that decreased food production is forecast for food bowl regions across the world, the increasing reliance of regional states on food imports may in turn drive up the cost of food, pricing the vulnerable poor out of the market (Jiang 2009, 1; Cruz *et al* 2007, 482). This is a recipe for

malnutrition and social unrest in countries where adaptive capacity is low (Tol *et al* 2004, 265).[2] Also, by increasing food imports at time of tightening global supply constraints, prosperous Northeast Asian states would be exporting the social and political problems of water scarcity and food insecurity to other more vulnerable nations.

Hydrology and Water Sources

The climate change-altered hydrological cycle in Northeast Asia is already making the East Asian monsoon more variable and increasing the frequency and magnitude of both extreme precipitation and drought events. More frequent heatwave conditions are likely across the region, along with, conversely, stronger typhoons and shorter, heavy precipitation bursts, which may increase flood risk (Cruz *et al* 2007, 479). In combination with direct environmental degradation from human development activities, these hydrological extremes will reduce the quality and availability of water simultaneous with growing water demand due to population growth and expansion of development.

China's water security problems are especially precarious. A quarter of the Chinese population are dependent for their water supplies on rivers fed by glacial run-off from the Himalaya. Spring glacial run-off will initially increase as rising mean temperatures accelerate glacial melt, along with risk of flood in downstream areas, eventually declining however as glacial ice retreats (Cruz *et al* 2007, 483). By contrast, the Russian Far East to the north is home to over a quarter of the world's fresh water reserves, with nearly twenty percent in Lake Baikal alone (Cruz *et al* 2007, 472). Nonetheless, general Northeast Asian drying trend has not escaped Siberia, which has suffered twenty seven major droughts over the last century and is projected to experience similar pendular hydrological extremes to those expected across China, Korea and Japan (Cruz *et al* 2007, 476).

Coast and Low-lying Areas

The IPCC has conservatively predicted global sea level to rise by approximately one metre over the coming century. Sea level rise will be geographically variable because it is attributable not only to the melting of polar land ice but also the thermal expansion of warming oceans, along with tectonic movement and local ground subsidence in coastal areas. As a consequence, it is possible that sea

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[2] Tol *et al*. (2004, 266) define adaptive capacity as " the ability to ameliorate the negative consequences of climate change and take advantage of the positive changes. Adaptive capacity is thought to be determined by technological ability, economic resources and their distribution, and human, political and social capital. These matters are all better in richer countries. By implication, richer economies are better able to protect themselves against climate change."

level rise in Northeast Asia may exceed the global mean (Cruz *et al* 2007, 484). Low-lying coastal locations in Northeast Asia will be increasingly vulnerable resultant higher tides and storm surges, exacerbating coastal erosion. Human structures in low-lying coastal areas are particularly vulnerable, including large cities such as Shanghai, Tokyo and Seoul, vital infrastructure such as ports and power stations, and farmland (Cruz *et al* 2007, 484).

Natural Ecosystems and Biodiversity

The impact of climate change on natural ecosystems and biodiversity in Northeast Asia is worrisome due to its inevitable connection with agriculture and political decisions about land use. Climate change is predicted to reduce the extent of forest cover across the region at the same time as population pressure and food insecurity drive deforestation to expand agricultural production (Cruz *et al* 2007, 486). Additionally, deforestation is being accelerated by land clearing for expansion of agricultural and development activities. As already seen in North Korea, these denuded landscapes have only a limited capacity for water absorption during heavy rains, intensified flooding events that accelerate soil erosion of both marginal and arable land (Mansourov 2007, 9). The risk here is expansion of desertification into deforested areas, leading to a reduction of arable land and consequently migration of populations away from affected areas (Cruz *et al* 2007, 486).

In the Russian Far East, melting of permafrost may trigger a positive feedback loop, precipitating the release of large quantities of trapped methane into the atmosphere. Such a methane "burp" would greatly accelerate the global warming process because methane is such a powerful greenhouse gas. This is one of a number of potential climate tipping points that could rapidly and dramatically destabilise the Earth's climate system (Lenton 2008).

Human Health

The IPCC forecasts numerous human health issues resulting directly and indirectly from climate change in Northeast Asia. These may include a growing incidence of hunger as food insecurity grows, higher incidence of heat stress during in heatwave events, and higher exposure of human populations to tropical disease vectors as the climate becomes more favourable for their northward expansion. Warmer winter temperatures and more extreme summer heatwaves are likely to generate adverse human health impacts across the region. Warmer winter temperatures across the

region may increase the prevalence of vector-borne diseases such as malaria, dengue fever and schistosomiasis, due to the more favourable breeding conditions of a warmer and more humid climate for insect vectors (Cruz *et al* 2007, 487). Also, the increased prevalence of heatwaves present numerous public health challenges for residents of large cities, placing increasing stress on health infrastructure.

Human Dimensions

Any damage to human systems from climate change hazards will have flow-on socio-economic consequences, the nature and severity of which will depend on the adaptive capacity of the location in question. The adaptive capacity of human systems describes their ability to reduce exposure to climate hazards, recover from losses incurred and cope with the consequences of the post-shock environment (Garg & Halsnaes 2007, 19; Gallopin 2006, 300-1). The relationship between adaptive capacity and the risk of harmful socio-economic consequences is inversely proportional: risk is a product of the probability of climate hazard exposure and its expected consequences, which will vary according to local adaptive capacity (Dewar 2003, 3). Therefore, poorly adaptive human systems have a higher risk of experiencing deleterious consequences as a result of climate change hazards.

Decisions on adaptation are made by individuals, groups within society, organisations, and governments on behalf of society. But all decisions privilege one set of interests over another and create winners and losers. Thus, the effectiveness of adaptation strategies depend on the social acceptability of options for adaptation, the institutional constraints on adaptation, and the place of adaptation within broader economic goals. The effectiveness of adaptation also depends on international factors such as the global economy and international politics. It therefore follows that climate hazards will cause the greatest harm in combination with existing problems such as over-population, demographic imbalance, poor governance, endemic poverty and lack of infrastructure (Mazo 2010, 38; Campbell & Parthemore 2008, 14).

International Relations, Climate Change and the Finite Earth

The IPCC forecast raises an important question for the discipline of international relations: how does international relations theory interpret the data on climate change impacts, and the more broadly

the climate change phenomenon itself? The IPCC data is an indicator of the inescapable truth that the Earth is a *closed finite system*. This means there are limits to the amount of resources that can be extracted from the Earth and the amount of pollution it can absorb, beyond which the biological processes of the planet and the human societies that depend on them come under threat. In the context of anthropogenic greenhouse gas emissions, thousands of peer-reviewed academic publications from scientists around the world, conducting independent research across numerous scientific disciplines, consistently point the conclusion that these limits have been reached.

Climate change is forcing all humans alive today to confront a fundamental ontological question about the human relationship with the natural world.[3] The ontological assumption underpinning modern industrial societies is that human societies exist as entities separate from and in control of the natural world. In pursuit of perpetual economic growth humans assume a limitless Earth, open for infinite resource exploitation and waste disposal. The Earth is the external other, an unimportant footnote to the script of human politics and economic production. Clearly on a finite planet these assumptions are false. As a product of that culture, modern international relations theory has tended to follow that assumption, viewing the natural world as something unchanging, the background scenery in front of which the play of international politics is performed. However there is now overwhelming evidence that human-induced climate change is altering the natural world and in turn shifting the dynamics of international politics. The discipline needs to address this ontological problem if the broad body of international relations theory is to correctly interpret the effects of climate change on international politics and offer appropriate prescriptive recommendations for policy-makers.

Climate change raises three specific ontological concerns: the nature of causality in the international political system, the agency of individual entities versus the constraints of the structure of that system, and the possibility that the international political system and the states within it are both whole systems in themselves and constituent parts of larger systems (Kavalski 2007, 444). Anthropogenic climate change is a global commons problem because its causes—man-made greenhouse gas emissions—and it impacts on human societies are distributed across the boundaries and jurisdictions of individual states (Keohane *et al* 1994, 9; Vogler 2011, 14). Causality is therefore difficult to pin down because there are multiple, non-linear paths of responsibility for the problem that cannot be assigned to any one state. In this context, it is also not clear how the structural anarchy of the international realm is the appropriate frame of reference for climate change when

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[3] Ontology is a branch of metaphysical philosophy that asks whether social entities can be said to *exist in their own right*, as *social constructions*, or *components of a larger reality* (Bryman 2004, 16).

there are a host of actors within and across state boundaries that share responsibility for it. Finally, if those actors are important to the story it means that states are not monolithic units but rather complex entities comprised of many smaller integrated systems, as well as constituent units in larger systems beyond the realm of international politics, as suggested above. These three ontological problems raised by climate change will form the basis for the theory case studies below.

Theory Case Study: Realism

Realism has been the dominant paradigm in the modern study of international relations, principally because its insights into the regularity of interstate conflict are difficult to refute when looking at the historical record. All strands of realism converge on a similar set of assumptions about how the international system operates. Realists see sovereign states as the primary actors in an anarchic international system, where there is no supreme authority to adjudicate the relations between states (Mearsheimer 2001, 30). In the absence of a supreme authority, it is material power and military strength that are decisive in shaping the pattern of interstate relations. As a result, insecurity pervades the system and breeds an ongoing struggle between states for power and survival (Frankel 1996, xiii-xv).

Realist Interpretation of Northeast Asia

The Northeast Asian security milieu provides a textbook illustration of the *security dilemma*, where mistrust between regional adversaries stemming from historic animosities, hostile alliance blocks and unresolved conflicts are breeding an insecurity spiral. Mistrust between adversaries, illustrated most prominently by the Sino-American and Sino-Japanese rivalries, has pushed regional states to adopt defensively motivated security measures. Because of the latent distrust in the region, opposing states often perceive these defence-oriented moves as offensive threats, which lead them to adopt countermeasures, creating a self-fulfilling prophesy about the danger of the security environment in which regional tensions are raised and each side becomes less secure (Waltz 1979, 186-187; Christensen 2003, 25-26).

In theory, this inevitable quest for power maximisation creates a tendency for regional states to resist the hegemonic aspirations of their rivals, enflaming the security dilemma and consolidating alliance blocks (Mearsheimer 2001, 34; Snyder 1997, 17). This balance of power dynamic is

exacerbated by the growing hegemonic contest between the United States and China. On the one hand, as the reigning hegemonic state, the United States is a status quo power in the region and has adopted policies to maintain the regional system as it is by attempting to deter or preventing the rise of a revisionist power such as China (Russett & O'Neal 2001, 185-186). Conversely, neo-realists may claim that rising powers such as China are likely to become frustrated by the incongruity between their growing economic might and their inferior status in the international system, leading to rivalry, balancing and ultimately military confrontation with the reigning hegemon (Goldstein 1997/98, 62-63).

Defensive realism assumes that the anarchic international system provides incentives for moderate behaviour on the part of states and thus has an inherently status quo bias. Waltz (1979) argued that great powers will act to preserve rather than upset the balance of power in the international system, in order to maintain their great power status. In the Northeast Asian context, defensive realists would therefore predict a relatively stable system. The United States, despite being the dominant actor on the world stage and master of maritime East Asia, lacks the power to directly challenge China on the Asian mainland without incurring extraordinary costs. For similar reasons, China would be unwise to challenge US supremacy in the East Asian littoral in the short to medium term while its naval capabilities remain inferior to the American capability (Goldstein 1997/98, 71). The region's middle powers are likely to hedge and promote cooperative interaction between the two larger powers in order to forestall having to bandwagon completely with one or the other (Alagappa 2008, 38; Kim 1998, 58). The eventuating bipolar system would be characterised by cautious efforts at power accretion between the two poles and strategic hedging between the poles and the middle powers. What we see in actuality is widespread strategic hedging, arising in response to the bipolar power dynamic on the one hand and the network of economic interdependence linking regional powers on the other.

Offensive realists emphasise the inherent uncertainty that exists in interstate relations, in which states can never be certain about the intentions of their rivals, all of whom possess some form of offensive military capability as a function of their national defensive posture. John Mearsheimer suggests that the combination of the anarchic system and the ambiguity of the intentions of states armed with offensive military capabilities leads to heightened suspicion and fear among the actors in the system, which in turn leads states to pursue offensive strategies in a never-ending bid for hegemonic power (Mearsheimer 2001, 30-31; Friedberg 2005, 26). A Northeast Asia predicted by offensive realism is likely to feature strong bipolar competition between the United States and

China, in which both actively try to undermine the position of the other. This would lead to hard balancing between the US and its allies against China, Russia and North Korea on the Asian mainland, blocs that Snyder (2009, 166) refers to as competing "security triangles." This prediction arises from the balance of power thesis, which asserts that China's growing economic power and concurrent military strengthening will inevitably trigger a balancing reaction among other regional states (Goldstein 1997/98, 63). Mearsheimer (2001, 58) suggests that it is not in the interest of the United States to allow China to challenge its hegemonic status, which will lead to increasing tensions at the region's two trouble spots—the Korean peninsula and the Taiwan Strait—where the two competing blocks come into direct military contact.

Realist Predictions for Climate-altered Northeast Asia

The IPCC predictions suggest growing food, land and water scarcity pressures developing in Northeast Asia, occurring in the context of growing global constraints in these areas.   States experiencing resource scarcities can develop exchange relationships with other countries possessing a surplus of that resource, which can be bought or bartered for in exchange for some other resource that the trading partner lacks. However, if a state's key trade partner is weakened for any reason and can no longer supply an essential import product, the dependent country is also likely to be destabilized as a result (Catton 1982, 158-159; Diamond 2005, 14). Therefore the prospect of increasing global scarcity pressures may push resource-dependent Northeast Asian states into a competitive or confrontational dynamic, enflaming the regional security dilemma. In this context of aggravated competition, the structural bias of the regional security milieu would favour the type of unabashed hard power competition predicted by offensive realists, rather than the gradual power accretion presupposed by defensive realism, as regional states look to secure their food, energy and water security from a steadily shrinking resource pool.

If one loosens assumptions about agency to encompass the concept of human security, the growing scarcity pressures indicated in the IPCC predictions do indeed foreshadow disruptions to human well-being.[4] Weakened governance and internal political unrest are possible where local institutions are unable to cope, forcing individual communities and households to improvise their own adaptive responses. State failure is a possible outcome in extreme cases. North Korea faces the most

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[4] Myers (1993, 31-32) defines *human security* in the following terms: "Security applies most at the level of the individual citizen. It amounts to human wellbeing: not only protection from harm and injury but access to water, food, shelter, health, employment, and other basic requisites that are the due of every person on Earth. It is the collectivity of these citizen needs-overall safety and quality of life-that should figure prominently in the nation's view of security".

immediate state failure risk, as its weak adaptive capacity cannot buffer against increasing climate change-driven food insecurity while the states is simultaneously hampered by a crumbling economy, energy shortages and its own rigid political system. Such crises may force North Korea into systemic reform, or push the regime into collapse as the totalitarian order slides into disrepair (Habib 2010, 400-401).

While China may not be dangling on the precipice of state failure as is its neighbour North Korea, it too may be weakened by human insecurity caused by climate change. China's growing economic and financial strength is tempered by large-scale environmental problems. However, many of these problems, not least of which it's large carbon footprint, can be attributed to the Chinese government's commitment to double-digit economic growth in order to provide employment opportunities and maintain social stability. These environmental problems, along with official corruption at the local level and the limited influence of the central government at the provincial and county level has led to rising incidences of civil unrest (Economy 2007; Morton 2006). The increasing frequency and severity of climate change impacts, along with any economic downturn that they may bring may foreshadow further civil disturbances in the future and the weakening of Chinese Communist Party control.

Until 2011, Japan had a strong adaptive capacity based on economic strength and technological innovation. However, the tragic earthquake and tsunami in March 2011 and the related Fukushima nuclear disaster have severely weakened the country's ability to cope with future climate-related hazards. Japan's other key weakness is its dependency on imported primary products, most notably oil and food. Japan is a geographically small but densely populated island-chain state that is dependent on imports for almost all of its energy and just under half of its food supply. These imports, as well as Japanese exports, come and go via vulnerable sea lines of communication (SLOCs) that stretch thousands of miles from the East China Sea to the Middle East (Kim 2006, 158). South Korea is also an economically strong and influential global middle power, but like Japan, is constrained by natural resource import dependencies and it is also hampered by its ongoing strategic competition with North Korea.

From a realist perspective, the potential for climate-driven human insecurity across Northeast Asia points to increased strategic competition among regional states as they look to secure the resources required to satisfy their peoples from a declining regional and global resource pool. If one factors in the decline of the United States as a global power and regional balancer, there appears to be a heavy bias toward competition and conflict in future years.

Ontological Critique: Causality and Agency

Because realists assume that states are the primary actors in the anarchic realm of international politics, they are restricted to seeing threats only from the power maximisation strategies of other states. However, the state is an awkward reference point as the primary actor in analysis of climate change as an international relations problem. States are social constructions that are intangible in a natural realm that is indivisible in terms of state sovereignty. Greenhouse gas emissions, regardless of where they are generated, are dispersed through the atmosphere and exert influence on the global climate as a whole (Gardiner 2008, 27). For example, greenhouse gases emitted in Melbourne will diffuse through the atmosphere to affect global climatic perturbations not only in the Melbourne area but over the entire planet. In fact the chain of causality for climate change is distinctly non-linear, incorporating the policy choices of governments as well as the past and present activities of millions of business entities and the past and present behavioural choices of billions of people, interacting with natural processes that accelerate the release of carbon in the atmosphere in positive feedback loops.

Addressing the causes of climate change is simply beyond the realist paradigm. Instead, what realism has to offer is a treatment of the political symptoms of climate change as state-centric security threats. For a climate change impact to be classified as a traditional security threat, it must have some demonstrable connection to a vital national interest, which can be enhanced or defended through the application of military, economic and political power (Matthew *et al* 2009, 7; Gleick 1991, 18). In the past, few environmental problems have satisfied that criteria because they tended to be localised or manifest as cumulative problems over distant time horizons, neither of which posed a threat to the core interests of states.

Other climate security studies have focused on the declining availability of food, water and energy as the primary driver of security threats (Schwartz & Randall 2003). According to this model, when scarcity pressures arise, competition may emerge between rival claimants of scarce resources, resulting in violence if cooperative organs and conflict resolution mechanisms fail. Violence acts as a negative feedback on resource scarcity, as conflicting parties increase their resource consumption to prosecute armed campaigns and refugees fleeing conflict zones create new resource pressures in the regions in which they settle (Brown *et al* 2007, 1148). Such studies are premised on the assumption that the responses of human societies to scarcity pressures automatically lead to

violence, which does not however accord with the evidence for environment and scarcity-based conflict (Michel 2009, 77; Yoffe *et al* 2003). Later studies have moved beyond the linear relationships to suggest climate change is expected to become a stress multiplier for all countries, with heightened risk of civil conflict in those states already at risk from internal instability and economic weakness (Dupont 2008; Barnett & Adger 2007).

Neo-realist theorists emphasised structural factors as the driving force of international relations. Specifically, the anarchic international system forces states to privilege survival and power maximisation over other ends.[5] But is it appropriate to assume that state interests remain fixed over time? Successfully addressing a global problem such as anthropogenic climate change, with complex paths of causality and geographically diffuse impacts, may favour international cooperation rather than competition and power maximisation because traditional realist self-help strategies do little to ameliorate the problem. The issue here is not the contest of survival between states in the absence of a higher power, but rather an alteration of physical conditions in which this contest takes place, cause by and impacting on all players.

With this in mind, proponents of the human security paradigm argue that the appropriate reference point for security analysis should be the individual human being and not the state. Harmful disruptions to human wellbeing and the patterns of daily life for individuals in vulnerable areas are said to lie at the heart of the underlying reasons why conflict occurs. Conflict is more likely where physical safety and secure access to food, water, housing, employment and health care are not available (Matthew *et al* 2009, 377-8; Myers 1993, 31-2). The provision of these goods is usually the jurisdiction of civilian institutions, the weakness, failure of absence of which can determine the probability of conflict in a given context. The challenge of climate change adaptation is therefore unlikely to be something for which military forces and hard power are ideally suited. The danger of adhering to a realist interpretation of climate change is that by defining climate change as a traditional security issue, states are more likely to adopt costly and inappropriate measures that may actually harm their adaptive responses to climate change (Brown *et al* 2007, 1153-4).

In reality there are numerous other actors that exert influence on international politics, from international organisations, non-government organisations, and corporations, down to domestic

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[5] Neorealists are divided over the structural implications of anarchy. Defensive realism assumes that the anarchic international system provides incentives for moderate behaviour on the part of states and thus has an inherently status quo bias. Defensive realism's most prominent adherent, Kenneth Waltz, argued that great powers will act to preserve rather than upset the balance of power in the international system, in order to maintain their great power status. Offensive realists also regard anarchy as the structural driver of international relations, though, in contrast to defensive realists, they see systemic incentives for power maximisation rather than mere survival (Mearsheimer 2001; Waltz 1979).

political processes and ultimately individual people. These actors operate within the confines of numerous human systems, such as the global economy, and natural systems, such as continents, bio-regions and ultimately the Earth as a whole. This insight requires ontological realignment for the international relations theorist; from this point of view, entities are both wholes and parts of ever greater wholes, simultaneously and at all times (Kavalski 2007, 444). The state is not the primary actor on the international stage, but rather a unit with numerous constituent parts as well as itself constituting a sub-unit of ever greater systems (see Figure 1). This realisation is inevitable once we accept that human systems are a part of, rather than separate from, the natural world.
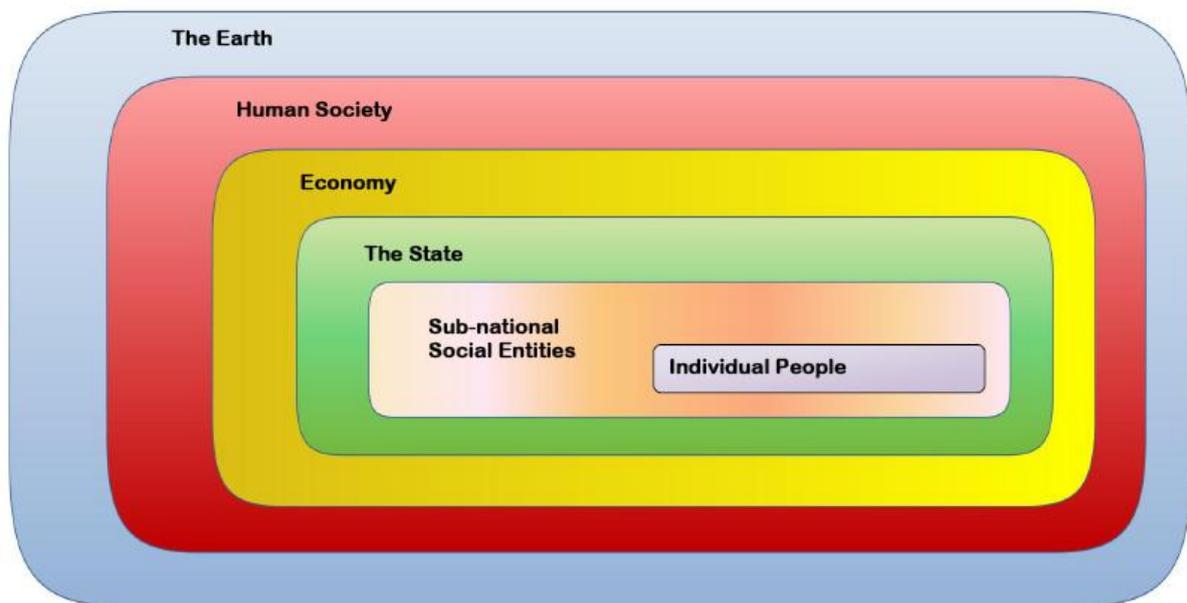

Figure 1: A simplified depiction of the state as a constituent component of broader ecological, economic and political systems.

Theory Case Study: Liberalism

In contrast to realists, liberals tend to see international relations in optimistic terms. Like realists, they see the international system as anarchic but believe it is possible for states to escape the security dilemma. They reject the realist assertion that warfare between states is inevitable and believe that humankind can transcend conflict through the pacifying influence of economic interdependence, international institutions and the spread of liberal democratic political systems. Russett and O'Neal (2001, 35) argue that democracy, economic interdependence, and international organisations should act as a "virtuous circle," a self-reinforcing positive feedback that over time will

make the international system more pacific and stable. These systemic interventions can subdue or even eliminate the security dilemma, dramatically decreasing the threat of conflict between states.

Liberal Interpretation of Northeast Asia

The democratic peace theory is a key element of the liberal vision. It has two components, one relating to the politically transformative power of economic development and the second to the moderating effect of public accountability on foreign policy decision-making. First, economic development tends to stir the desire for political rights because trade and commerce operate most efficiently in societies that have stable, transparent governance and a strong legal system. Liberals argue that capitalism cannot function properly without a reliable rule of law featuring courts and enforceable contractual obligations. States that restrict political freedoms and attempt to control information are said to be disadvantaged within the global economic system, while those that facilitate the free flow of information and capital are rewarded with sustained economic growth. Second, liberals believe governments that are accountable to the public through regular elections are less likely to enter into expansionist military adventures or engage in wars of dubious strategic value. As a consequence of democratic accountability, it follows then that democracies rarely go to war with one another (Russett & O'Neal 2001, 82). As the number of democracies in the world increases, as it has quite dramatically over the last two centuries, the likelihood of international conflict should theoretically diminish.

In contrast to the pessimistic realist interpretation of international politics, liberal internationalists see many issue areas in which states have a strong mutual self-interest in working together to achieve absolute gains for the common good (O'Neill 2009; Keohane, Haas & Levy 1994). Liberal internationalists believe that the volume of commerce creates a momentum toward good relations between states, through their mutual self-interest in maintaining stability to facilitate economic exchange. This foundation of trade, investment and exchange forms the basis for conflict resolution and pacific relations between interdependent states (Friedberg 2005, 43).[6] This proposition of the liberal paradigm is easier to demonstrate, particularly in the Northeast Asian context. Northeast Asia has become the locus of global economic production. The extraordinary growth of the capitalist

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[6] Friedberg (2005, 43) describes the pacific influence of economic interdependence in the context of US-China relations: "Assuming that they persist and grown, the mutual gains from an expanding economic relationship will remain the single most important peace-inducing force at work in US-China relations. The potential costs of a conflict between the two powers, especially given that both possess nuclear weapons, should also help to keep competitive impulses within bounds and to make both sides very wary of embarking on any course that could risk direct conflict."

economies of Washington's East Asian allies over the last thirty years has attracted a great deal of investment from the West, luring American companies to set up manufacturing plants and take advantage of the lower production costs on offer. In a similar vein, China began its steep growth trajectory in the mid-1990s and in turn lured investment from the newly-industrialised Asian capitalist states, as well as from companies in the US. What has evolved from this process is a complex web of economic interdependence spanning all of Northeast Asia's key players, bar North Korea, which has reduced the likelihood of conflict because of the minimal benefits and high costs of aggression in such an integrated economic milieu (Alagappa 2008, 42-43).

This foundation of trade, investment and exchange forms the basis for conflict resolution and pacific relations between interdependent states. Interdependence requires international institutions to promote rules in order to make interstate relations more stable and predictable. International institutions are "stable sets of related constitutive, regulative and procedural norms and rules," often, though not always, made manifest in the form of an international organisation (Duffield 2007, 7-8). These norms, rules and procedures prescribe certain behaviour and imply obligations for states choosing to be bound by their injunctions, which help to consolidate a congruence of interests between states and by reducing the inherent uncertainty over intentions that plagues interstate relations as a result of anarchy (Keohane 1984, 59). This occurs because the norms and rules that constitute international institutions create a behavioural dynamic that is predictable and thus more stable than one characterised by uncertainty and suspicion.

In the security realm, Northeast Asia lacks the multilateral security architecture of the type that developed in Europe after 1945. Within the US-led North Atlantic Treaty Organisation (NATO), European countries such as France and Germany that had been strategic rivals for nearly a century were able to define mutual common interests upon which to base pacific relationships. This was not the case is East Asia, where Washington chose to pursue a series of bilateral security alliances rather than construct a multilateral security architecture (Hemmer & Katzenstein 2002). The legacy of Japanese imperialism was an important factor in this choice, as it was unlikely that other regional states would enter into an alliance with a state under which they had so recently been subjugated. It remains today that the dominant strands of nationalism on the Korean peninsula and in China remain staunchly anti-Japanese.

Nonetheless, Northeast Asia and the broader East Asian region are being gradually enmeshed by a multilateral "architecture," a patchwork of multilateral institutions in the absence of an over-arching

integrated multilateral order such as the European Union (Tow 2010). This architecture encapsulates many institutional and sub-institutional layers, from organisations such as the Association of Southeast Asian Nations (ASEAN), Asia Pacific Economic Cooperation (APEC) and the Shanghai Cooperation Organisation (SCO), bilateral alliances like the hub-and-spokes system of alliances maintained by the United States, and multilateral dialogues, including the Trilateral Strategic Dialogue, the Shangri-La Dialogue and the Tripartite Summit (Bisley 2009).

On the one hand, this evolving multilateral architecture is evidence that historic animosity is being overcome as regional states recognise mutual self-interest. On the other, it is unclear that regional states have internalised the logic of cooperation and recognised the communal good of regional institutionalism in its own right. Within this institutional patchwork, rival states are competing to have their favoured model adopted as the over-arching institutional order for the region. There are two broad groupings of competing models of institutional integration in East Asia: Pan-Asian regionalism, which largely excludes the United States and is favoured by China, and Asia-Pacific regionalism, which is favoured by the United States and Japan (He 2004). This institutional competition indicates that East Asian multilateralism remains very much embedded within the context of great power competition.

Liberal Predictions for Climate-altered Northeast Asia

Liberal international relations theory rests on three pillars--democratisation, economic inter-dependence and institutionalism—which are all likely to be undermined by the climate change impacts predicted by the IPCC. Let us first consider democratisation in Northeast Asia, the central pillar of the liberal democratic peace theory. Given the predictions of declining human security inherent in the IPCC climate forecast, there is possibility of increased incidence of social unrest and thus a greater possibility of government crackdowns, particularly in authoritarian countries. The evolution of democratic governance in non-democratic Northeast Asian countries, particularly China, will not be aided by these developments.

Consider the social unrest in China related to water politics. The combination of water scarcity and inequitable access to water resources is rapidly becoming a source of political disquiet in north-eastern China. Water use conflicts cut across many axes, illustrated by competition between upstream and downstream users, as well as sectoral competition between agricultural, industrial

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and urban water consumers. It is the role of the Chinese government to adjudicate between competing claims and allocate water in a fair and equitable manner, allowing scarcity stress to be borne equally by all users (Cai 2008, 15). Yet as has been shown above, access to water is highly unequal, causing considerable public unhappiness with the central government, culminating in an alarming rise in social unrest linked to water and environmental grievances in recent years. Often this has resulted when local level officials have catered to entrepreneurial interests by allowing over-extraction and pollution, while shutting down all channels for public grievance. Pent-up grievances have exploded into violent anger-venting riots, numbering as many as 1,000 a week across China (Yu 2008, 75-76; Economy 2007, 47).

The proliferation of widespread social unrest related to water allocation and environmental issues represents a serious challenge to the Chinese government's nation-building strategy of maintaining social harmony through economic development, which could undermine the authority of the Communist Party (Economy 2007, 46). The Beijing government has increasingly viewed this kind of social unrest as a security threat, to which it has often responded by violent crackdown. However, by framing environmental complaints through the mindset of security, the government is closing off opportunities for dialogue, the development of transparency and institutional reform, which would improve the water allocation process and help to prevent major protests over water issues from erupting (Ma 2008/09, 33).

In addition, there are questions about the ability of democratic systems to deal with climate emergency. Shearman and Smith (2007, 123) argue that liberal democracy as a political model may be incapable of responding to climate change because the short election cycles of liberal democratic political systems create an in-built inertia that prevents government from tackling long-term problems. They also argue that global environmental problems have been accelerated by the corruption of democracy by powerful interest groups. From this perspective, China may have the advantage over the liberal democracies of Japan and South Korea in the capacity of its government to make rapid and decisive policy decisions.

Turning attention now to economic interdependence, the IPCC predictions for Northeast Asia point to growing resource scarcity pressures. Inevitably, this is likely to lead to increased competition on international markets for regionally-scarce commodities. China provides an excellent example of the demand-side risk. Water scarcity is likely to impair China's ability to produce sufficient food for its large and growing population. In the event of widespread food insecurity within China, domestic

demand a for food imports will divert food supplies from other countries and drive up the global cost of food, pricing vulnerable poor people in other countries out of the market (Jiang 2009, 1). This will in turn have serious impacts on the human security of vulnerable citizens in other net food-importing countries, leading to social unrest and possibly malnutrition in extreme cases (Stern 2006, p. 72). In effect, China would be exporting the social and political problems of water scarcity and food insecurity to other more vulnerable nations. There are also supply-side risks to consider if net food exporting countries are compelled to quarantine their produce for domestic consumption. Brown (2009) reports that in 2007, wheat-exporting countries including Russia and Argentina limited exports in an attempt to counter domestic food price rises, while Vietnam banned exports of rice for similar reasons. Disturbingly, it appears that this dangerous new politics of international food scarcity has already begun.

Climate change may also shift the calculus of investment decisions across the regional economy. A likely adaptation decision is to shift investment from the most climate-vulnerable sectors to those more carbon efficient or less sensitive to climate change impacts. However any efficiency gains or risk amelioration achieved through this process may be cancelled out by declining levels of investment and savings, as the total pool of capital available for investment and savings gets eaten away through the absorption of climate change impacts (Stern 2006, 151-152). If regional states legislate to price carbon in their domestic economies and internalise the cost of greenhouse gas emissions in the cost of business for polluting industries, we may see a recalibration of the equation of international competitiveness. In addition, the high cost of damage to coastal infrastructure associated with industry and commerce, along with possible relocation of such facilities, are likely to make imported products more expensive (Stern 2006, 136). With carbon and energy efficiency factored into investment decisions along with labour and transport costs, there may be a growing comparative advantage to manufacturing value-added goods locally rather than offshore (Rubin 2009, 176).

What these developments portend is a possible roll-back of the web of economic interdependencies that stretch across Northeast Asia. The growing economic linkages that have enveloped Northeast Asia and the globe in general have taken place during a period of relative geo-political stability since 1945, under the protection of American hegemony. US hard power dominance over the capitalist world since 1945 and more broadly since the fall of the Soviet Union allowed the development of a US-managed liberal order—what Ikenberry (2009, 76-78) has labelled "Liberalism 2.0"—based on Cold War multilateral alliances such as the North Atlantic Treaty Organization (NATO), international

institutions including the International Monetary Fund (IMF), the World Bank and the World Trade Organization (WTO—formerly the General Agreement on Tariffs and Trade, GATT), and the US dollar as the global reserve currency. The economic dimension of US primacy has allowed economic cooperation in Northeast Asia to bloom over the past two decades, which, combined with advances in rapid long-haul transportation and communication technologies have facilitated an explosion of commerce between the region's key players. However, as the inferred socio-economic and political implications of the IPCC predictions indicate, this geopolitical stability can not be guaranteed in the era of climate change.

The climate change impacts predicted by the IPCC are likely to place Northeast Asia's under-developed institutional patchwork under duress. The lack of a cooperative security mechanism is significant here, in light of the predicted growth of scarcity pressures and human insecurity. While conflict scenarios are unlikely in Northeast Asia, the underlying security dilemma nonetheless requires regional states to carefully manage their relationships and maximise areas of common interest. If regional affairs are poorly managed, the entropy of the security dilemma may render conflict scenarios more likely.

Rising nationalist agitation may insularise domestic constituencies and make cooperation more difficult, because in the two-level game of multilateral negotiations governments can only concede as much ground as their domestic constituents will allow in reaching an agreement (Putnam 1987). An insular and hostile domestic audience will make concessions all the more difficult to reach. Take for example the Sino-Japanese relationship, which continues to be dogged by issues such as the East China Sea maritime dispute and the legacy of Japanese imperialism during the first half of the twentieth century. Indeed many Chinese analysts and popular nationalist groups have a propensity to view Japan with a venom and distrust rarely articulated in their attitudes to other countries, including the United States (Cole 2007, 542-544; Yang 2006, 98). Japanese nationalism is similarly flared by China's rapid economic growth, diplomatic influence and military projection capabilities, which produce fears that Beijing is seeking to dominate the region (Alagappa 2008, 58), along with the status of Japanese abductees kidnapped by North Korean agents arouses emotional and widespread anger in Japan, a sentiment that obliges politicians of all stripes to take a hard line on this issue and by extension the broader relationship with the DPRK (Yun 2005).

In spite of the growing architecture of multilateral regionalism in Northeast Asia, all of its players are engaged in competition, adopting strategic hedging as their *modus operandi*. Indeed, none is a

strictly status quo power: China's star is on the rise as the United States attempts to prevent the rise of a peer competitor. Japan is edging toward normalisation while Russia is attempting to increase its role in the region. South Korea is attempting to alter economic and political conditions within the DPRK in anticipation of future national reunification, while simultaneously navigating between the competing economic and security imperatives of its relationships with China and the United States. And within this morass, North Korea has become a nuclear power. The goals of regional multilateral fora are likely to be modest, diluted to "fit" with the pre-conceived interests of states in the form of limited "problem-solving" measures that converge with the narrow utilitarian calculations of state interests without disturbing the existing imperatives of regional power accretion in which those interests are conceived (O'Neill 2009, 116-117; Eckersley 2004, 30-31). In this environment, the threat of climate change is likely to push Northeast Asian states to hedge against the vulnerabilities of the multilateral institutional patchwork by enhancing their hard power capabilities.

Ontological Critique: The Problem of State-centric Bias

It is difficult to avoid pessimistic conclusions about the future of liberal internationalism in a climate-altered Northeast Asia, based on the dire predictions of regional climate change impacts described in the IPCC Fourth Assessment Report. The growth of climate-induced human insecurity and scarcity pressures suggest regional relations biased toward realist power maximisation over regional cooperation. Yet while the climatic predictions are understandably dire, does this necessarily entail the erosion of multilateral cooperation and a descent of regional politics into a Hobbesian gladiatorial contest?

While liberalism enjoys a more sanguine view of international affairs than does realist theory, they share the basic assumption that states with fixed national interests are the primary actors on the global political scene. As it is for realists, this assumption is an ontological strait-jacket. Many of the ontological criticisms of realism described above also hold true of liberalism, as a result of their shared assumptions about the international system. When we consider the multitude of obstacles to regional commerce thrown up by climate change, as described above, we notice the involvement of a range of non-state actors as well as processes outside of international anarchy shaping state interests in the regional economic milieu. The error of liberal institutionalist theory here is that state interests are regarded as non-negotiable pillars of international interactions, to the exclusion of natural systems and biological processes upon which those interests are founded. We have already established, however, that human systems (states included) are a constituent component of the

broader natural world, where the logical ontological assumption of multilateral environmental agreements would be the opposite, where states would adapt their interests to conform to the bio-physical realities of the Earth's natural systems. In this context, the existing order in which state interests are conceived is part of the climate change problem itself.

Theory Case Study: Constructivism

Constructivists argue that international interactions have less to do with the balance of material power than with the socially constructed ideas that deeply influence the decision-making and behaviour of states. Using this logic, Wendt (1992) the most celebrated of the constructivist theorists, claimed that the realist concept of self-help was not an inherent feature of interstate relations but one of many possible identity roles in an anarchic security environment. The identity of states shapes their foreign policy decision-making, because it moulds the worldviews and preferences of national leaders (Kim 2002, 17-18). The identity roles of states arose out of their interaction with other countries; therefore, states are bound to feel insecure if self-help is the dominant paradigm, leading them to interpret other states as threatening and thus forcing them to "mirror" this behaviour (Wendt 1992, 406). This identity role choice, rather than the system itself, is what is driving the security dilemma and forcing states to adopt self-help strategies. If states were to alter the norms and values that underscore their identity roles by defining their interests in a different way, then, inevitably, the operation of the international system would change in the process (Frankel, 1996, xxi). When states cooperate on the basis of mutual interest, they often acquire norms of behaviour that transcend anarchy and become a structural feature of their relations in themselves.

In addition, the identity roles of states are said to arise out of their interaction with other countries. These subjective identities are shaped by three broad components. First, *nationalism* defines the self-image of individuals within governments, including national leaders, which also informs their perceptions of other states and their leaders. A firmly established national ethos is extremely difficult to alter or remove, because its cultural transference from old to young becomes entrenched in a nation's social system (Buzan 1991, 78). Second, a state's *strategic culture* informs its perceptions about the utility of coercion and cooperation in interstate relations, based on fundamental beliefs about the character of the international system. These beliefs are influenced by factors such as a state's history, domestic political culture, and geopolitical setting (Macmillan et al

1999, 8). Finally, *norms* relate to accepted practice in relations between states and beliefs about appropriate and legitimate behaviour in international politics (Yamin & Depledge 2004, 7). Together, these three concepts coalesce to form a state's identity, shaping its behaviour and the decision-making choices of its leaders.

Constructivist Description of Northeast Asia

There is a dual dynamic to international politics in present-day Northeast Asia. In the increasingly inter-dependent economic sphere, investment and trade linkages are drawing regional states closer together, even across traditional security cleavages. For example, the Taiwanese independence movement has lost considerable momentum since the 1990s as many Taiwanese increasingly see their own prosperity linked to economic engagement with mainland China. Similarly, the centripetal pull of the Chinese economy is drawing in foreign investment from American allies South Korea and Japan, as well as from the US itself, in spite of the simmering Sino-American rivalry. At a casual glance, the flower of cooperation appears to be blooming as the weeds of competition and conflict wither away. On closer inspection however, competition and conflict are never far from the surface.

National identity in Northeast Asia is a combustible mixture of ethnocentrism and xenophobia, heavily influenced by the legacy of Japanese and Western imperialism. For example, the Chinese national psyche has evolved from several millennia of continuous civilisation, during which time the Chinese considered their nation to be the "middle kingdom," the centre of the universe. However, Chinese history from the beginning of the First Opium War in 1836 until the renaissance of the late-Deng Xiaoping era is generally considered to be a period of national shame, during which time foreign powers were thought to be instrumental in dislodging the Chinese nation from its rightful position at the centre of the world (McDougall 2007, 56). An outgrowth of this shame is a virulent anti-Japanese nationalism, stemming from the brutal Japanese occupation between 1937 and 1945. This anti-Japanese sentiment is also shared on the Korean peninsula, which lay under Japanese occupation for much longer than any other mainland Asian country (1910-1945).

Korean nationalism is also ethnocentric, but is split along sectarian lines between the totalitarian North and newly-democratic South, both vying to be the legitimate face of the entire Korean nation. Many Koreans harbour a deep-seated grudge against the Japanese, stemming from the latter's colonisation of the Korean peninsula in the early-20th century (Yang 1994, 131-132). The Dokdo/Takeshima territorial dispute, the visits to the Yasukuni shrine by successive Japanese prime

ministers, and the controversy over revisionist history textbooks suggest to many South Koreans that Japan's view of the world has not fundamentally changed from that of its imperial heyday, and that a remilitarised Japan would be far more dangerous than any other regional player (Kim 2008, 172).

In contrast, Japanese nationalism since World War Two has been characterised by anti-militarism and collective pride as an economically successful trading state (Mihashita 2007, 107). Japan has continued to indulge the United States by band-wagoning with American operations in Afghanistan and Iraq and acceding to requests from Washington to assume more responsibility for its self-defence, all the while leaning on the its alliance partner as the best bet for countering a resurgent China (Kim 2008, 192; Patterson 2007, 185-190). On the other hand, Japan has built substantial economic linkages with China, with the intention of assuaging concerns about any possible Japanese military threat, leading to an acceleration of regional economic interdependence, as demonstrated by flows of investment and trade (Mansourov 2005, 523). The Achilles heel of this strategy, as mentioned above, is that the regional threat perception is likely to linger until the Japanese government acknowledges its wartime past. As Yang Jian notes, for China, Japan's deployment of troops abroad is a very sensitive issue (Yang 2006, 99). North Korean bellicosity creates added momentum in Japanese domestic politics in favour of strategic normalisation, which in turn amplifies the concerns about Japan's intentions that are harboured by neighbouring countries. In short, Japan's policy of strategic hedging is slowly evolving as a losing gambit, due mainly to the inability of Japan and China to reconcile their competing strategic and economic priorities and the tension within the Japan-US alliance.

Constructivist Prediction for Climate-altered Northeast Asia

Is it possible that a complex, mutual threat in the form of climate change could provide the impetus needed for regional states to re-evaluate their interests and overcome the historic and cultural baggage of past conflict? Regional states are capable of re-evaluating their interests in the context of mutual benefit. Indeed, the past two decades in particular have seen the nascent growth of regional cooperation within a traditionally hostile regional setting. As argued above however, it does not appear that multilateral cooperation in Northeast Asia has evolved beyond utilitarian gamesmanship to be valued as a good in its own right. While constructivists argue that anarchy is in essence a 'choice', the cultural and historical weight of past conflicts, in combination with the dynamics of Sino-American great power competition in the present, clearly suggest that competition and conflict are the *chosen* behavioural norm in Northeast Asian relations.

It would appear then that the type of climate change impacts predicted by the IPCC Fourth Assessment would be a disincentive for states to choose alternative modes of interaction. Institutional cooperation exists on the policy menu for most regional states. Recognition of common threat and mutual benefit in cooperation could lead to enhanced regional cooperation. However, material pressures and their attendant bias toward aggressive, exclusionist national identity, in the context of historic animosity, are likely to reinforce confrontational behavioural norms at the expense of embryonic institutionalism. Let us consider the competing and antagonistic nationalisms of regional states. State interests are subject to change, based on the contest of interests at the domestic level that in turn influence a state's foreign policy position. Climate change impacts leading to growing scarcity pressures and human insecurity are likely to combine with pre-existing socio-economic weaknesses to fan the flames of aggressive nationalism. The severity of the nationalist upwelling will depend on the result of the contest of ideas at the domestic level. Here, sub-state actors can become agents in the process of tipping the balance one way or the other.

Ontological Critique: The Earth as both System and Actor

In a practical sense, constructivists are open to a broader chain of causality of international threats than realists and liberals because they recognise the salience of non-state actors in international affairs. When the holistic interpretation of the state as a whole of smaller systems and a component of larger ones is applied, we see that the state itself is a social construction. It has only existed in its modern form from the Treaty of Westphalia in 1648 and has evolved in form since that time, shaped by the forces of the Enlightenment, colonialism, industrialisation and technological advancement. Because states are a social construct, constructivists argue that their interests and identities are not fixed. These interests and identities are a product of many influences over and above any structural imperatives of the international system, from the pull of non-state actors to the preferences of national leaders and the opinions of the masses (O'Neill 2009, 130; Eckersley 2004, 34/35). In turn, these socially-produced interests and identities shape the foreign policy decision-making of states (Kim 2002, 17-18). Fundamentally, all social actors in the international system are said to be reflexive, able to pro-actively shape as well as adapt to the international circumstances (Eckersley 2004, 35). As the IPCC data suggests, it is highly likely that the non-state actors which shape the interests and identities of states will have their preferences altered by climate change, which will express itself in the foreign policy calculations of regional states.

As we see in Northeast Asia, even in the authoritarian regimes of the region, governments are bound to some extent by the preferences of alternative actors, be it the Chinese government considering the interests of the People's Liberation Army or even nationalist protests in its foreign policy calculations, to public anger in Japan over the North Korean abduction cases or in South Korea over the Dokdo dispute with Japan. No government is a monolith; they are made up of competing departments and institutions, led by people with often conflicting personalities and goals, which are accountable to varying degrees, directly or indirectly, to their citizens. The interplay between these constituents of government leaves an unavoidable fingerprint on foreign policy decision-making (Putnam 1988; Keohane, Haas & Levy 1994, 7; Allison & Zelikow 1999, 256).

Through multilateral agreements, states may change their understanding of and their relationship to other states, in ways that transform their understanding of their own interests and identities. If states were to alter the norms and values that underscore their identity roles by defining their interests in a different way, then, inevitably, the operation of the international system would change in the process (Frankel 1996, xxi; O'Neill 2009, 11). In the case of climate change, this will require not only a reorientation of regional states' perceptions of each other, but also a new understanding of the place of human societies as a wholly-owned subsidiary of the natural world. The Earth can no longer be ignored as a given in at the ontological level of international relations. It is therefore both the stage on which the performance of international relations takes place, as well as an actor in that performance because it is changing and therefore influencing the interactions of the other players.

Conclusion

From the theory case studies above, analysts are likely to view Northeast Asia as a progressively more Hobbesian regional system as a result of growing scarcity pressures and human insecurity *in the absence of an ontological reassessment* of international relations as a system of constituent parts including but not restricted to states, as well as a constituent part in its own right of the larger Earth system. Competition and conflict rather than cooperation appear more likely in a climate-altered Northeast Asia, because of the predicted increase in resources scarcity pressures and human insecurity portended in the IPCC Fourth Assessment Report, as well as the long history of animosity between regional states and the under-development of multilateral institutions across the region.

However, rather than push the region toward greater instability, climate change may in fact provide the impetus for regional cooperation. The realist bias could be overcome if states national interests are re-evaluated via the agitation of sub-state actors in the domestic politics of regional states as well as the socialisation of states within the nascent multilateral architecture of the region. To achieve the cooperative outcome, all key actors need to recognise three key points: (1) climate-related threats to state interests are not the fault of any one state or group of states, but are arising from global sources outside of the anarchic system of sovereign states; (2) the agency of individual actors in the international system—state and non-state alike—can influence international affairs as much as the structural imperatives of that system; and (3) that the international political system and the states within it are both whole systems in themselves and constituent parts of larger systems. This is not just a challenge for international relations theory, but for all human beings alive today who are being forced to confront the fundamental ontological question about the human relationship with the natural world.

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