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Assessing North Korean Nuclear Intentions and Capacities: A New Approach

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This article develops a novel assessment of the nuclear program of the Democratic People's Republic of Korea. Using a theory-driven approach rooted in comparative foreign policy analysis, the article undermines two common assumptions about the DPRK nuclear threat: first, that the North Korean leadership's nuclear intentions are a measured response to the external environment and, second, that the DPRK has developed enough technical capacity to go nuclear whenever it pleases. In place of these assumptions, the article puts forth the general theoretical hypotheses that (1) the decision to go nuclear is rarely if ever based on typical cost-benefit analysis, and instead reflects deep-seated national identity conceptions, and (2) the capacity to go nuclear depends not only on raw levels of industrialization and nuclear technology, but also on the state's organizational acumen. Applied to the case of the DPRK, these hypotheses suggest that it has long been strongly committed to the goal of acquiring an operational nuclear deterrent, but also that it has been finding it very difficult to successfully implement that wish. The article also demonstrates that these hypotheses are supported by the meager evidence available on this case.

KEYWORDS: comparative foreign policy, DPRK (North Korea), national identity conceptions, neopatrimonialism, nuclear proliferation, regime type and state structure, sultanistic regimes, threat assessment

What are the strategic intentions and technical capacities of the nuclear program of the Democratic People's Republic of Korea (DPRK), commonly known as North Korea? Notwithstanding the strident debates over how to deal with the DPRK nuclear issue, no one should claim actually to know the answers to these basic questions. But the cloud of ignorance that hangs over the DPRK nuclear debate contains a silver lining. The absence of solid information about the case actually

can free us to take a fresh look at the theoretical assumptions that usually remain implicit in proliferation threat assessments. The result of this fresh look is an alternative assessment of the DPRK nuclear program that defies the standard formulas. The principal goal of this article is not to declare that its assessment is necessarily correct, but rather to forestall premature cognitive closure in our evaluations of a case that is, after all, the hardest of hard intelligence targets.[1] Moreover, the return to theoretical basics promises to improve our understanding not only of this case, but also of the more general phenomenon of nuclear proliferation. For the sad truth is that even for countries about which plentiful information has been available, the record of strategic threat assessment is abysmal.[2]

The article proceeds as follows. It begins with a brief review of the literature on DPRK strategic intentions and capacities. It finds that even the best, most theoretically self-conscious work on the case applies questionable assumptions about the *general* dynamics of nuclear proliferation. If we apply different assumptions, different conclusions emerge about the DPRK's likely nuclear behavior. First, the literature typically assumes that the DPRK's nuclear drive is a measured response to the unfriendly post–Cold War external environment. The main dissenters from this assumption argue that the DPRK is uniquely irrational. But in fact, the basic choice to go or not to go nuclear is a revolutionary one that rarely if ever lends itself to standard cost-benefit calculation. The nuclear ambitions of *any* state are thus better understood as the product of emotions—and, in particular, of the fear and pride that grips "oppositional nationalists." The article provides evidence that the DPRK leadership is and has long been oppositional nationalist and, in consequence, that its desire for the bomb is not a post–Cold War phenomenon but in fact dates back many decades. Second, the literature typically assumes that a heavily industrialized state like the DPRK should be capable of exploiting any nuclear technology it is able to acquire. Yet there is in fact much room for doubt here. The DPRK fits snugly into a class of regimes that from a neo-Weberian perspective can be labeled "neopatrimonial" or even "sultanistic." The comparative politics literature indicates that even when such regimes gain access to the latest technology, their management pathologies are often so pronounced that their industrial research and development projects routinely run aground. The article provides preliminary evidence that the DPRK may indeed not be up to the nuclear research and development challenge. Finally, the conclusion returns to the theme of needing to be ready for any surprises that the DPRK may still have in store.

Existing Perspectives on the DPRK Nuclear Program

While the assessment of states' nuclear intentions and capacities is always difficult, the closed nature of the DPRK makes assessment particularly challenging. There is simply very little material for the typical journalistic/area studies "ground-up" approach to work with. Thus, not surprisingly, conclusions about the level and nature of the threat vary widely from analyst to analyst.[3] Some of these analyses are more convincing than others, but they all share the fatal flaw of trying to apply inductive reasoning to a country that keeps almost everything secret.

Victor Cha and David Kang's *Nuclear North Korea: A Debate on Engagement Strategies* represents a major step beyond the cacophony.[4] Cha and Kang argue that the proper response to the regime's opacity is to rely much more heavily on general social science theory than the literature has typically done.[5] Of course, the DPRK is unique in many ways, but this uniqueness should not lead us to decide a priori that it is flouting standard patterns of state nuclear behavior. What are those standard patterns of state nuclear behavior that the DPRK might in fact be following? On this score, Cha and Kang differ. Cha argues for realist power transition theory, spiced with a dose of prospect theory. He uses this theoretical foundation to contend that the DPRK's steep decline since the late 1980s actually has made it more liable than ever to build an operational nuclear deterrent and to use it as an instrument of coercive diplomacy. Kang, by contrast, argues for neoliberal institutionalism, spiced with a dose of international political economy. He uses this theoretical foundation to contend that the steeply declining DPRK has become increasingly desperate to reach an accommodation with the United States, if only Washington would show the slightest willingness to give peace a chance. Interestingly, despite their theoretical differences, Cha and Kang offer bottom-line policy recommendations that are quite parallel: they both recommend pursuing a credible policy of diplomatic engagement with Pyongyang.

The sober, theory-driven approaches of Cha and Kang clearly show the way toward reversing the DPRK nuclear debate's typical lopsided ratio of heat to light. However, the range of social science theory that is potentially applicable to this case is much more diverse than the international relations (IR) realist versus liberal debate that the Cha and Kang debate roughly mirrors. Indeed, for all their differences Cha and Kang, as well as many other, less theoretically systematic analysts, actually share two core assumptions that are highly questionable. The first of those shared core assumptions is that the DPRK's nuclear intentions

are a measured response to the external environment. The second of those core assumptions is that the DPRK, as a heavily industrialized state with a long-standing interest in nuclear technology, must have accumulated enough technical capacity by now to be able to construct an operational nuclear deterrent in the near term. Cha and Kang are atypically strident in defending these assumptions; they suggest that to question either of them is to fall into the trap of assuming that the DPRK leadership is simply "crazy."[6] But they are wrong.

Neither of these assumptions is a slam dunk from the perspective of comparative foreign policy analysis. Unlike IR realism or liberalism, comparative foreign policy analysis is not a discrete theoretical paradigm but rather an approach to the study of foreign policy that is close in both spirit and method to the political science subdiscipline of comparative politics and that, in particular, stresses the impact of domestic institutional and ideational structures on political choice.[7] In the next two sections of the article, I use a comparative foreign policy approach to build an understanding of the DPRK's nuclear intentions and capacities that is decidedly different from the understandings enunciated by Cha and Kang.[8]

Assessing the DPRK's Nuclear Intentions

Like many analysts, Cha and Kang both assume that a DPRK decision to build a nuclear arsenal would be the product of a careful calculation, albeit perhaps an imperfect one, of the best strategy for ameliorating the state's difficult international position. This assumption is in line with traditional theories of nuclear proliferation.[9] But is it correct to expect decisions to go nuclear to be the products of a typical cost-benefit calculation? After all, the decision to go nuclear is a revolutionary choice in international politics, whose overall long-term consequences are extremely difficult to measure even in retrospect, let alone to prepare for in advance.[10] Merely one of the many uncertainties surrounding the DPRK's nuclear choice relates to whether a small and unreliable nuclear arsenal would (1) deter its adversaries, (2) not deter them, or (3) provoke a preventive attack by them. Most of the policy debate today assumes that a few North Korean bombs would deter the United States; however, according to classical deterrence theory, only when the DPRK has developed a secure second-strike capability should it begin to feel confident in the deterrent power of its nuclear arsenal.[11] Which of these perspectives is correct? One may hazard a guess, but in

truth, the "deterrent" or "provocative" effect of small nuclear arsenals is quite simply a great unknown. And again, this is just one of the many interlocking dilemmas raised by the prospect of going nuclear.[12]

Since the full effect of the decision to go nuclear is so extremely difficult to predict in advance, it makes little sense to assume that this decision would be the product of a cost-benefit calculation, even an imperfect one. Rather, we need to recognize the power of nonrational factors, including emotions, for explaining revolutionary decisions. This is a point that was well understood by comparative foreign policy analysts already in the 1970s, and it is reemerging today.[13] A particularly crucial basis for revolutionary foreign policy decisions is the leader's "national identity conception" (NIC)—in other words, his or her basic sense of what the nation naturally stands for and of how high it naturally stands in comparison to others in the international arena. Relying on the NIC and its associated emotions allows the leader to clear away the complexity of the real world in favor of the clarity of the national narrative. And when the leader's NIC is *oppositional nationalist*, going nuclear seems like nothing less than the natural choice to him or her, whatever outsiders may think about the "objective" international situation.[14]

Oppositional nationalists believe that their nation's core interests and values are naturally in stark opposition to those of its key comparison others; this is the "oppositional" side of their NIC. They also believe that their nation both can and should hold its head high in its dealings with its key comparison others; this is the "nationalist" side of their NIC. Oppositional NICs give rise to the emotion of fear in dealings with key comparison others, and nationalist NICs give rise to the emotion of pride. The oppositional nationalist combination of identity-driven fear and pride is actually relatively rarely found in top state leaders, but where it does exist it proves to be a uniquely explosive psychological cocktail. First, fear produces a desire for markers of security. This desire for security should be interpreted not only in material, but also in emotional terms. The leader who reaches for the bomb, as for any protective amulet, is doing so at least as much to control fears as to decrease actual dangers.[15] Second, pride produces a desire for markers of autonomy and power—and of these, nuclear weapons are the gold standard. The bomb is a symbol of the nation's unlimited potential, of its scientific, technical, and organizational prowess, and also of its tenacity in the face of strong international condemnation.[16] Moreover, not only do fear and pride increase the perceived value of nuclear weapons, they also short-circuit the normal processes of reasoned deliberation that even oppositional nationalist leaders often use to make

decisions, and in so doing they propel the leader to act precipitously. Therefore, this identity-to-emotions story does not merely help us understand preference formation; it actually takes us all the way to choice.[17]

The fear- and pride-driven desire for a marker of security, autonomy, and power, producing an incautious decision to go nuclear, was very much in evidence in the Indian nuclear decision of 1998, for instance. Whether or not having the bomb has turned out to be a plus for India—the debates still rage over that question—there is no denying that the decision to thrust the country definitively across the nuclear weapons threshold was a leap into the dark, made without any of the careful calculation that political scientists usually expect states to undertake in advance of major decisions. Newly elected Indian prime minister Atal Behari Vajpayee of the Hindu nationalist Bharatiya Janata Party decided on this dramatic break with the traditional Indian policy of nuclear ambiguity mere days after coming into power—at a time when a high-level panel formed by his own government to look into the matter had hardly begun its work. How could Vajpayee have felt the motivation and certitude to take such a leap, which not only threw the South Asian security situation into disarray, but also almost brought down his newly formed coalition government? Because for oppositional nationalists like Vajpayee, going nuclear is the product not of a cool calculation but instead of a deep-seated psychological need.[18]

It is my contention that this basic theoretical model of proliferation should also apply to the case of the DPRK. But before moving on to the empirics, it is important to underscore what this model of nuclear decisionmaking is *not* saying. First, to say that a leader is oppositional nationalist is not a polite way of saying that he or she is crazy. Facing the world's complexity, in order to make decisions we all depend on some basic stereotypes about the natural relationship between ourselves and others. And the DPRK really does have sworn enemies—though they are perhaps not as implacable as its leaders imagine. Second, to say that a leader is oppositional nationalist is not to say that every decision he or she makes will reflect that basic national identity conception. Leaders' NICs are especially important to decisions to go nuclear, because the problem of information in this particular case is uniquely large. But the leader also makes many tactical decisions about the nuclear program—for instance, how quickly to move it forward—which can reflect standard cost-benefit calculations. Finally, to say that a leader is oppositional nationalist is not to adopt a primordialist account of identity. The causes of the rise and fall of oppositional nationalist thinking are cer-

tainly well worth studying, but that is a question of the long-term evolution of the leader's basic preconceptions, whereas the question of this article focuses on the immediate impact of leaders' basic preconceptions on their decisionmaking.

Measuring the Kim Family Dynasty's National Identity Conceptions

These theoretical considerations lead us to an empirical question: can either or both of the DPRK's top leaders—first Kim Il Sung until his death in 1994, and thereafter his son Kim Jong Il[19]—be characterized as oppositional nationalists? If so, then the Kims have likely set nuclear weapons acquisition as a fixed strategic goal, unresponsive to the normal menu of diplomatic carrots and sticks. And, given the extreme centralization of power in the DPRK, we need not doubt that the top leader's choice on this matter is the law.[20]

The scholarly literature reveals a widespread consensus that the country's father-son dynasts have indeed long held an oppositional nationalist NIC directed against the outside world in general. As the historian Kathryn Weathersby writes, "The experience of having survived sustained bombing by US planes for nearly three years [in the Korean War] created the dangerous, if paradoxical, combination of a profound sense of threat and a faith in the country's ability to prevail in a future military conflict."[21] What Weathersby calls the paradoxical combination of "sense of threat" and "faith in the country's ability to prevail" maps precisely on to what I have defined as the NIC of oppositional nationalism. Other major scholarly analyses by Bruce Cumings, by Ralph Hassig and Kongdan Oh, and by Balazs Szalontai, for instance, concur in this judgment.[22] Where debate does exist in the literature is over the question of whether or not the Kims' oppositional nationalism is *justified.* But this is essentially a normative matter that need not detain us here; as Herbert Kelman has pointed out, the "psychological" is not necessarily the opposite of the "real."[23]

The Kims' oppositional nationalist NIC is at the core of the regime's traditional official ideology of Juche (*ch'uche*), which has been loosely translated as "self-reliance" or "Korea first" and is antonymous with *sadaejuui*, meaning serving or relying upon a foreign power.[24] (Ironically, Juche derives in no small measure from the oppositional nationalist *kokutai* idea of the country's former Japanese colonizers.[25]) Of course, Juche implies much more than merely the oppositional nationalist standoff between Korea and foreign others. Moreover,

since the mid-1990s, the regime has developed a new state ideology, known as Songun or "military first," which it claims both encompasses and supersedes the traditional tenets of Juche. Some analysts have suggested that this new ideology is more flexible than the old one.[26] But from the perspective of the theory being advanced here, the point is not particularly crucial. Songun is clearly just as rooted in oppositional nationalism as Juche. The details of the ideological systems that people elaborate on top of their basic national identity conceptions are of secondary importance for understanding their nuclear intentions.

As previously noted, NICs are built in relation to key comparison others. Korea scholars stress that although the DPRK regime uses the United States as its top bogeyman, in fact this latter-day "hermit kingdom" defines itself in opposition to a whole gamut of others beyond the Korean peninsula—not only the United States, but also Japan, China, the Soviet Union/Russia, and everyone else. South Korea is a special case here: while the "imperialist puppet" government in Seoul is reviled, its people are Korean and therefore deemed worthy of love and respect. In sum, the standard scholarly interpretation of the DPRK leadership's NIC is that it is one of Korea-versus-the-world.

There is much historical evidence of the regime's long commitment to rejecting foreign influence of every sort and from every provenance. For instance, soon after coming to power, the Kim Il Sung regime undertook a major "Koreanizing" reform of the written language, which extirpated all traces of the historic Chinese as well as Japanese influence.[27] Moreover, this supposedly "communist" regime long ago stopped genuflecting to Karl Marx, apparently because of his foreign nationality. The regime instead refers to its economic and political system as "Korea-style" or "our-style" socialism. The regime has even taken great pains to revive memories of the medieval Goguryo (Koguryo) Kingdom, which from its stronghold in northern Korea extended far into Manchuria before succumbing to an alliance of Imperial China and the southern Korea-based Shilla Kingdom in 668 C.E. The DPRK's strident historical revisionism has caused worries about possible territorial revisionism—to its *north*.[28] All of these examples leave the decided impression that although the DPRK may occasionally see a use for allies, fundamentally it does not believe that Korea has any friends in the world.

The consensus interpretation of the DPRK leadership as oppositional nationalist vis-à-vis the entire outside world is reinforced by a content analysis I performed on the regime's major yearly statements at the New Year for the years 1975–2008, thirty-four years in total. The

New Year's statements, which serve as a kind of DPRK "state of the union" address, were delivered orally by Kim Il Sung himself until his death in 1994; since then, they have been published without a byline in the country's major newspapers. Though Kim Jong Il is not explicitly named as the author of these editorials, it is well known that they emanate directly from him.[29]

I employ the same content analysis method here as I used on the cases of Argentina, Australia, France, and India in my book *The Psychology of Nuclear Proliferation*.[30] Quantitative content analysis surely cannot replace the nuanced interpretations that may be achieved through qualitative reading of texts, but it can help to reveal, in a straightforward and reliable manner, some key aspects of the underlying structure of those texts. The method used here operationalizes some basic tenets of social psychological theory to assess a leader's NIC. The heart of the method lies in taking simple counts of the number and placement of references to *external actors,* such as generic "foreign others" or specific foreign countries like the United States, and to *international communities* that include the DPRK, such as "the world" or "the Communist bloc." These counts are then processed with some simple arithmetic to produce a quantitative score of the leader's degrees of opposition and nationalism. For more details, see the Appendix.

The first question the quantitative evidence can help us answer is what state or set of states constitutes the DPRK leaders' key comparison other. My analysis seconds the conventional interpretation that rather than focusing their national self-comparison on some specific foreign country or countries, both Kims have used a broad-brush approach that distinguishes Korea from the entire rest of the world—that is, from generic foreign others, which is my umbrella term for the many references they make to vague external "enemies" and to things "foreign," and also their invocations of the "Juche" and "Songun" ideas. The New Year's messages across the entire period 1975–2008 are dominated by such references to generic foreign others—accounting for 683 out of a grand total of 2,182 external references in the data set (32 percent of the total). Second, beyond their general rejection of everything foreign, when the Kims peer out at the world, clearly the "imperialists" loom largest in their minds. Among the imperialists, the United States certainly is a major focus (288 references, 14 percent of the total). But references to imperialists in general are also quite plentiful (179 references, 8 percent of the total). Japan is also referred to relatively often (69 references, 3 percent of the total), while the silence on the DPRK's erstwhile "comrades" China and Russia is deafening. Finally, special mention must be

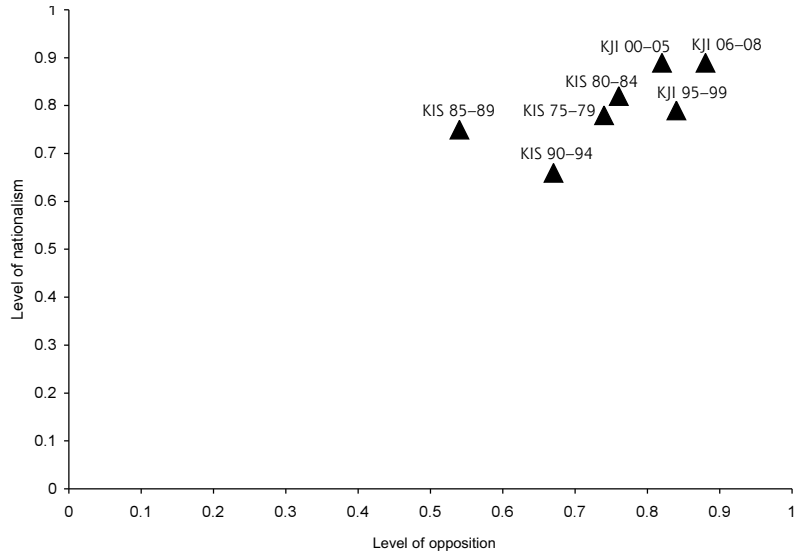
made of the many references in the dataset to the Republic of Korea or South Korea (423 references, 20 percent of the total). It has sometimes been suggested that North and South Korea are like two scorpions in a bottle, obsessed with measuring themselves against the other. While there may be some truth to this interpretation, both the quantitative results and a qualitative reading of the texts produce the unmistakable impression that South Korea is *not* the DPRK leadership's key comparison other in the classic sense of that term. The Kims clearly define their homeland not as "North Korea" but simply "Korea." And in line with this, they have consistently portrayed the South Korean regime as merely a fig leaf for the imperialists' continued colonial rule—and therefore as not being worthy of comparison with the "independent" North.

In sum, the content analysis methodology employed here finds that the DPRK leadership's basic tendency is to see Korea on one side, and a quite undifferentiated outside world on the other. This finding reinforces the dominant theme in the existing literature. The next question for the content analysis is, how have the DPRK's leaders depicted the nature of Korea's relationship with that undifferentiated outside world? The answer produced by the content analysis is that the DPRK leadership sees the outside world through the lens of oppositional nationalism. This finding again reinforces the dominant theme in the existing literature.

Figure 1 graphically illustrates the high levels of oppositional nationalism vis-à-vis generic foreign others expressed by the top DPRK leadership over the years (for more detail, see Appendix). I have broken up the results of the codings into five-year periods in order to search for any cross-temporal variation, especially between father and son. Note that the scale on both axes runs from a minimum possible score of 0 to a maximum possible score of 1.

As is quite apparent from Figure 1, the codings of the New Year's statements cluster in the top right-hand quadrant—indicating a solid oppositional nationalism vis-à-vis the generic foreign others. It is true that the chart contains some variation *within* that top right-hand quadrant from period to period. Notably, during the last decade of his reign, Kim Il Sung's fervent oppositional nationalism appeared to be softening a bit, whereas since Kim Jong Il took power, there has been a statistically significant reversion to the rhetorical extremes of the previous period. These shifts are interesting, but their importance should not be exaggerated. For instance, when compared to the scores recorded for leaders of other countries in *The Psychology of Nuclear Proliferation*, even Kim Il Sung's "low" scores of the late 1980s and early 1990s still

Figure 1 Quantitative Content Analysis of North Korean Leaders' New Year's Statements



Note: KIS = Kim Il Sung; KJI = Kim Jong Il.

seem quite high.[31] Thus, the overall message I draw from the chart is one of consistent and omnidirectional oppositional nationalism on the part of the Kims.

It is admittedly conceivable that the Kims have merely been making use of oppositional nationalism for its propaganda value while personally holding a much different picture of their nation's basic position in the world. Although conceivable, this is unlikely. The careful and systematic analysis of propaganda has been shown to be potentially highly informative about regime leaderships' deep-seated beliefs and psychological needs.[32] Moreover, recall that the quantitative analysis here is simply reinforcing an already existing rough consensus in the historical literature—which draws not on public propaganda but instead on the Kim Il Sung regime's private interactions with its communist allies. True, we have much less access to what is being said in private today. In addition, as previously mentioned, Kim Jong Il does not sign the New Year's editorials, in contrast to his father's personal presentation of the New Year's addresses. This might reflect a subtle distancing by the leader from the sentiments expressed on his behalf. We should keep these caveats in mind when making assertions about Kim

Jong Il's basic motivations. But despite Kim Jong Il's elusiveness, we cannot avoid the need to take a stand on this matter. And on the basis of the analysis presented here, clearly the most reasonable stand to take is that Kim Jong Il, like his father before him, is oppositional nationalist vis-à-vis the rest of the world. To draw any other conclusion would be to engage in pure speculation.

The DPRK's Nuclear Intentions: Documentary Evidence

The Kims' oppositional nationalism, according to the theory previously outlined, should long ago have led them to conceive a strong desire not just for a nuclear weapons option, but indeed for an actual, operational nuclear weapons arsenal. Does this hypothesis make sense in light of what we know about the historical record? Most analysts have viewed the DPRK's nuclear weapons drive as a response, for one reason or another, to its parlous international position after the end of the Cold War. This is to be expected, given the conventional theories of the causes of proliferation. For instance, Kang argues, "Although during the Cold War the North was the aggressor, this shift in power [in the early 1990s] put it on the defensive. It was only when the balance began to turn against the North that it began to pursue a nuclear weapons program."[33]

If Kang were right, this would frankly falsify the national identity-based hypothesis outlined above. But he is not right. In fact, historical research being carried out in former Communist bloc state archives shows conclusively that Pyongyang had an avid interest in nuclear weapons already *by the early 1960s*.[34] Of course, we have long had several credible reports of the DPRK's stated nuclear intentions, including a proposal by Kim Il Sung himself in early 1970s secret talks with the South that the two Koreas should jointly develop the bomb.[35] But the recently unearthed evidence is much more convincing because it is a trustworthy, contemporaneous record of DPRK officials' statements behind closed doors. For instance, the Soviet ambassador reported to Moscow in 1962 that DPRK foreign minister Pak Song Chol had told him, "Who can impose such a [test ban] treaty on countries that do not have nuclear weapons, but are perhaps successfully working in that direction?"[36] In 1969, the East German ambassador in Pyongyang reported that at a dinner with the newly appointed DPRK ambassador to East Germany, the latter, after stressing the need to "hack off the US imperialists' dick," had muttered "We must prove that our atomic bombs are the better ones."[37] In 1976, North Korean diplomats even claimed to their Hun-

garian comrades that the DPRK *already possessed* "nuclear warheads and carrier missiles, which are targeted at the big cities of South Korea and Japan . . . and they had manufactured them by themselves."[38] These are merely a handful of the statements uncovered in the archives. Of course, the DPRK's allies took such statements as the bluster they were; they knew that the country had no capacity to build the bomb at that time. Nevertheless, they also concluded that the bluster was indeed very revealing about Pyongyang's intentions—that, in short, the DPRK was seeking to acquire nuclear weapons for some combination of security and prestige-related reasons.[39] Therefore, they resolved to block its attempts to gain the expertise and equipment necessary for the bomb. (Soviet-Chinese competition for leadership in the socialist bloc eventually led Moscow to renew nuclear assistance beginning in the mid-1980s, at the price of Pyongyang's commitment to join the Nuclear Nonproliferation Treaty [NPT].)[40]

The evidence from the Communist bloc archives is very telling. When the United States, for instance, makes public charges about DPRK nuclear intentions, one can legitimately question the quality of its information or even the sincerity of its motives. But the Soviet Union, East Germany, and Hungary were the DPRK's *friends,* with close diplomatic relations and extensive programs of bilateral economic and technical cooperation. Yet they too concluded that the country wanted the bomb long before the end of the Cold War. This is a major blow to standard proliferation hypotheses such as those enunciated by Cha and Kang, which portray Pyongyang's desire for the bomb as a post–Cold War response to the country's "diplomatic isolation," "inferior power position," "desperation to recoup its former glory," or "potentially imminent collapse." The negative trends in its international position since the 1980s may have caused the DPRK leadership to desire the bomb even more fervently than before, but they are not at the *root* of its nuclear ambitions. Rather, at the root of those ambitions, from the height of the Cold War down to the present day, stands an oppositional nationalist leadership's need to allay its fear and stoke its pride. But there is nothing particularly unique about the DPRK on this score, because oppositional nationalism is typically at the root of decisions to go nuclear.

Assessing the DPRK's Nuclear Capacities

The DPRK leadership has long wanted nuclear weapons; but can it get them? Most analysts assume that the answer to this question is obviously

affirmative. But this assumption, like their assumption about the source of the DPRK's nuclear intentions, can be called into question.

The story of the DPRK's nuclear efforts has been often told. The country's rise toward a dangerous level of nuclear capacity began in the mid-1980s. The timing of this technical progress is clearly related, though not entirely due, to the contemporaneous Soviet decision to provide significant nuclear assistance to the country. But the Soviets also imposed the condition that the DPRK join the NPT. Thus, even though Pyongyang long delayed ratification of the required NPT safeguards agreement, when it finally did so in 1992, International Atomic Energy Agency (IAEA) inspectors were able to catch its plutonium separation efforts at a relatively early stage. But not early enough: the IAEA found that the DPRK had attempted to separate plutonium from the spent fuel rods from its 5-megawatt (electric) "research" reactor in the consecutive years 1989, 1990, and 1991, thereby possibly obtaining enough fissile material for one or two nuclear bombs.[41] The IAEA's discoveries produced the first North Korean nuclear crisis. The crisis cooled down in 1994, at least on the surface, when the US-DPRK Agreed Framework froze the country's reactors and reprocessing facility in exchange for promises of aid and diplomatic normalization.[42] But ever since that time, it has been an article of faith for many analysts, and not least the CIA, that the DPRK is capable of crossing the nuclear threshold any time it chooses.[43] Therefore, the fact that it had *not* made an overt attempt to do so until its test of October 2006 was widely taken as an indicator of its self-restraint. Kang pithily summarizes the case: "If North Korea really wanted to develop nuclear weapons, it would have done so long ago."[44]

But this conventional assumption that the DPRK long ago attained sufficient capacity to quickly construct an operational nuclear weapons arsenal is actually a worst-case scenario whose accuracy is open to question. Estimates of the DPRK's contemporary nuclear weapons capacity generally follow the typical assessment shorthand that boils the capacity problem down to estimating the size of a state's plutonium stockpile. These estimates generally suggest that the DPRK may already have had enough plutonium for one or two bombs by the early 1990s, and that since the collapse of the Agreed Framework and the unfreezing of its nuclear program it now has accumulated enough for at least five bombs.[45] Yet, although the acquisition of fissile material is surely important for nuclear weapons capacity, it is just the beginning of the problem. After all, what we colloquially refer to as nuclear "bombs" are actually complex weapons systems involving an incredibly diverse array of advanced technologies. These various technical

pieces must not only each be present in sufficient *quantities*, they must also be of extremely high *quality*; and they must also be intricately *integrated* with the other components—and, indeed, with yet another complex set of technologies associated with nuclear delivery systems.

Mastering all of this complexity requires strong organization and skillful management. The management and organizational dimensions of the nuclear capacity problem have generally been ignored or discounted by analysts, perhaps because they are hard to quantify.[46] But the historical record of nuclear weapons programs clearly shows many delays, detours, and wasted expenditures that had nothing to do with the quantity of fissile material.[47] Is it so unreasonable to ask if the DPRK's program could also suffer from such problems? The US blue ribbon commission on weapons of mass destruction intelligence (WMD Commission or the Silberman-Robb Commission) has sharply criticized the US intelligence community's obsession with mere procurement: "Equation of procurement with capability is a fundamental analytical error—simply because a state can buy the parts does not mean it can put them together and make them work."[48]

In short, to properly assess the DPRK's nuclear capacity, we need to have a better understanding of the managerial and organizational competence of the regime. Attention to the consequences of state organizational pathologies on proliferation is, of course, very much in evidence in the work of Scott Sagan and other "proliferation pessimists."[49] That research agenda has, however, largely focused on the deleterious consequences of poorly run organizations for the practice of deterrence by new nuclear nations, rather than on the deleterious consequences of poorly run organizations for nuclear aspirants' efforts to build the bomb in the first place. This article attempts to push the organizational perspective back to the period *prior* to the postproliferation problems that Sagan and others have identified.

The Nuclear Programs of Neopatrimonial Regimes

At the core of any assessment of state organizational effectiveness should stand an analysis of the basic structure of the state. In the case of the DPRK, despite the typical journalistic focus on its "weirdness"—a canard that Cha and Kang rightly puncture—the regime built by the Kims actually fits relatively well into the Weberian conceptual category of "neopatrimonialism." Characterized by clientelism and personalist "bigman" rule, neopatrimonial regimes are the polar opposites of the "legal-rational" ideal-type.[50] Indeed, the leading scholars of regime types, Juan

Linz and Houchang Chehabi, do not hesitate to categorize the DPRK as an *extreme* case of neopatrimonialism or, in other words, as a "sultanistic" regime.[51] In sultanistic regimes, the state is literally run as a family business—a dysfunctional business in which no one other than the top leader has a secure position (and even the top leader must constantly be looking over his or her shoulder). This definition indeed sounds like a thumbnail description of the DPRK.[52] And it seems even more accurate since the elevation of Kim Jong Il to the pinnacle of power, since his serious legitimacy deficit has predictably driven the North Korean state into the typical neopatrimonial dynamic of ever-increasing corruption.[53] Note that the characterization of the DPRK regime as neopatrimonial or even sultanistic is not incompatible with its more typical characterizations as "totalitarian" or "Confucian." These latter concepts appear particularly helpful for understanding the relationship between the DPRK *state* and North Korean *society*—totalitarianism as an ideological aspiration to total state control over all aspects of social life, Confucianism as a familial conception of society with the father-figure monarch at its head. But here we are considering not the relationship between state and society, but rather the state's *internal* bureaucratic implementation capacity.[54] In that sense, the concepts of neopatrimonialism and sultanism provide a much better description.[55]

The basic identification of the DPRK as a neopatrimonial or even sultanistic regime has clear implications for the assessment of its capacity to organize a successful nuclear weapons program.[56] Neopatrimonial rulers' fundamental political illegitimacy inexorably turns them into bad bosses. In particular, their usual response to the three classic management tasks of motivation, coordination, and delegation is to lean heavily on bribery and blackmail, divide-and-conquer, and micromanagement.[57] Despite—or perhaps because of—the nuclear program's importance in the eyes of the top leader, it is unlikely to be spared from these typical flaws of neopatrimonial management. Therefore, we can anticipate that such regimes will (1) alienate or even eliminate their best scientists, promote political hacks, and generally engage in routine, counterproductive churning of personnel;[58] (2) make suboptimal, shifting, and even bizarre technical choices, while undermining efforts to develop a long-term, coherent action plan and indeed setting various wings of the effort at odds with each other; and (3) exhaust the program and its resources through repeated "crash" efforts with unreasonable deadlines and distracting side projects. All of these organizational dysfunctions may seriously compromise or even derail a nuclear weapons research and development (R&D) effort, no matter how well financed and long-running it may be.

Comparison cases underscore the value of these hypotheses for the assessment of nuclear capacity. For instance, there is the case of sultanistic Libya's inability to make literally any progress toward the bomb despite extensive help from the A. Q. Khan proliferation network.[59] Moreover, the debriefings of Iraqi officials since the fall of the sultanistic Saddam Hussein regime have steadily undermined earlier beliefs that the Iraqi nuclear program had been on the verge of success at the time of the first Gulf War—let alone the totally false claims about the "reconstitution" of its program during the 1990s. In fact, the 1990s turn out to have been a time of increasingly wanton corruption in Iraq's special weapons programs, with vast sums from Saddam's private accounts going entirely to waste.[60] But perhaps the most relevant historical parallel to the Pyongyang regime is the case of Nicolae Ceausescu's Romania, which like the DPRK was also a clearly sultanistic regime, headed by an unmistakably oppositional nationalist tyrant, and also saddled with a heavily industrialized socialist command economy.[61] Moreover, like the DPRK, Romania conducted secret plutonium extraction efforts that IAEA only discovered long after the fact, in the early 1990s.[62] So the comparison seems an especially apt one.

Though our record of Romania's nuclear history remains incomplete, we know enough to conclude that its program did not get very far down the road toward nuclear weapons. And, highly relevant to our understanding of the DPRK case, it would appear that the main problem was not access to technology, but poor management. (Indeed, the West was actually falling over itself to give Romania advanced nuclear technology at the time, in the vain hope of weaning the country away from the Soviet camp.) The organization of Romania's nuclear R&D was dysfunctional at every level. At the top of the ladder stood none other than Ceausescu's wife, Elena, who devoted much of her energies as the country's science policy czarina to destroying Romania's academy of sciences in favor of new institutes manned by political hacks willing to promote her candidacy for the Nobel Prize in Chemistry.[63] At the bottom of the ladder, masses of forced laborers were mobilized to construct a planned series of Canadian-designed CANDU nuclear power plants. This was a practice that the on-site Canadian engineer later suggested would have been more appropriate to a potato harvest than to high-technology construction.[64] And in the middle, the hapless project managers mainly concerned themselves with hiding the growing mess from their political masters, with tactics that would have made Potemkin blush. For instance, desperate to suggest to their leadership that progress was being made, they brought over Donald Anderson of the power company Ontario

Hydro for the ostensible mission of starting up the first CANDU reactor in the late 1980s. Anderson complied but soon realized that his presence was valued mainly to keep up false appearances. After a tour of the facility confirmed his "worst fears," he informed his hosts in Bucharest that "this station was not going to operate for many years and that was reality." When he gave them this news, Anderson could not fail to notice their "nervous glances up at what I presume were the hidden television monitors."[65] By the time Ceausescu was executed on Christmas Day 1989, thanks to his incompetent administration, his decade-plus quest for the bomb had hardly left the starting gate.

We cannot be certain that the DPRK is repeating the Romanian nuclear experience, since the internal workings of the DPRK strategic weapons programs are shrouded in secrecy. Moreover, it must be said that the neopatrimonial regime type is not a guaranteed death sentence for a state leadership's nuclear weapons ambitions—a notable case of success being the nuclear program of Maoist China. But China is the exception that proves the rule about neopatrimonial regimes. China's program of the 1950s and 1960s featured an almost ideal-typical legal-rational bureaucratic organization that was practically unique in the country and that was protected by military and party heavyweights from falling into the destructive grip of the tyrant Mao Zedong.[66] Given the sultanistic character of the DPRK regime, it is hard to imagine that the Kim family dynasts could have been kept at a distance from their nuclear program as Mao was from his. The Romanian analogy seems much more apropos.

Thus far, I have used theory and relevant historical comparisons to build a case for the plausibility of the idea that the DPRK's much-ballyhooed nuclear program may in reality be distinctly unimpressive. My goal is not to declare that we have nothing to worry about in this case, but rather to puncture the dominance of worst-case assumptions. Turning to empirical evidence on the DPRK itself, the little we know about the quality of the regime's nuclear output suggests that it indeed may be suffering from some of the typical dysfunctions of neopatrimonial regimes. It is true that the program has gotten as far as a nuclear test, something that was never a possibility for Ceausescu or Saddam Hussein, for instance. But, it is becoming ever clearer that the DPRK's October 9, 2006, nuclear test was actually just a fizzle, or at best an extremely qualified success. Most estimates of the test yield are in the 0.2 to 1 kiloton (kt) range.[67] That does not compare well to the roughly 15 kt yield of the Hiroshima bomb or the 20 kt yield of the Nagasaki bomb, or even the 4 kt yield that the DPRK reportedly told China it was

gunning for immediately before the test occurred. Indeed, this was the *first time in history* that a country had failed to produce a multikiloton explosion on its first attempt. As Jungmin Kang and Peter Hayes ironize, "The DPRK has now demonstrated that it does not yet have a nuclear capacity that enables it to threaten nuclear Armageddon against anyone but itself."[68] CIA chief Michael Hayden apparently has also concluded that the test device malfunctioned and therefore "does not recognize North Korea as a nuclear weapons state," according to a report in South Korea's respected *JoongAng Ilbo* newspaper.[69] If the CIA has indeed become skeptical about the DPRK's nuclear progress, then Pyongyang today has much less bargaining power than it did before it tested. This cannot be what it intended to achieve.

Can the DPRK nuclear program recover from its October 2006 blunder? The possibility cannot be excluded; but again, this will largely depend on the regime's organizational capacity to learn from its mistakes. And learning from mistakes is something that neopatrimonial regimes are not good at. Certainly the disastrous experience of a half-century of DPRK economic development efforts does not give much confidence that the regime knows how to adjust.[70] Moreover, what little we know about the inner workings of the DPRK nuclear program is not very flattering to it. First, there is reason to suspect that the human capital base of the program is weak. During the Cold War around 250 North Korean specialists were sent to the prestigious Soviet United Institute of Nuclear Research at Dubna for training; but only twenty-five or so defended theses of any kind, and only *two* made it all the way to a doctoral degree.[71] Second, the program has made gross errors in facilities siting and construction. The most glaring example of this is that the main nuclear complex at Yongbyon was mistakenly built in a flood plain along the banks of the Kuryong River. As a result, river water routinely seeps into basement rooms at the facility, threatening operations. Moreover, worse-than-usual floods produced by the storms of 1995 and 1996 knocked out the main power source for the facility for several months, and emergency generators failed to function. Therefore, when winter came, equipment necessary for reactor operations literally froze. Thus, as Alexandre Mansourov comments, "Nature itself inadvertently commanded North Korea to adopt a nuclear freeze"—and thus to abide by the 1994 Agreed Framework.[72] Third, even in less extraordinary times, the operation of the facilities has been quite inconsistent. For instance, ironically, during the spring of 2007 when the United States and its partners were demanding that the DPRK uphold its commitment to shut down its Yongbyon reactor, the reactor, because of technical troubles, was often not operating anyway![73]

In short, while the DPRK nuclear program has admittedly performed well enough to at least try to conduct a nuclear test, the limited evidence available to us suggests that the variable of neopatrimonial mismanagement may well be playing a key role in hampering its progress. But note that even if the DPRK were somehow able to turn things around and conduct a truly successful nuclear test in the future, this would not in itself mean that it had become a nuclear weapons power. Still awaiting would be the high hurdles of achieving full weaponization and integration with strategic missiles—which, as demonstrated by the spectacular failure of the July 2006 Paektusan (also known as Taepodong) long-range missile test, also have been given the benefit of the doubt by Western analysts for far too long.[74] Therefore, while our limited information base makes it impossible to judge if and when the regime may finally be able to field an operational nuclear weapons arsenal, after the failures of 2006 we can now say with confidence that this will not happen tomorrow. Furthermore, one should not exclude the possibility that a North Korean nuclear arsenal might never happen at all. In sum, although uncertainties remain, the literature should, at the very least, stop simply *assuming* that Pyongyang is capable of going nuclear at any time of its choosing. And it should also stop interpreting DPRK nuclear inaction as a clear sign of strategic restraint.

Conclusion

This article has used general social science theory to develop a novel assessment of the DPRK nuclear program. The typical journalistic/area studies "ground-up" approach certainly has its place, but its utility in this case is much diminished because the regime is so secretive and opaque. The innovative attempt of Cha and Kang to promote an IR theory-driven approach pointed the way forward, but this article has pushed beyond Cha and Kang by questioning two common assumptions about proliferation that they make explicitly and that many other analysts of the DPRK make implicitly: first, the assumption that the DPRK's nuclear intentions are a measured response to the external environment; and second, the assumption that that the DPRK must have developed enough technical capacity by now to be able to build an operational nuclear deterrent in the near term. In place of those assumptions, I have put forth the alternative claims—also firmly theoretically grounded—that the DPRK's nuclear intentions are a product of its leadership's oppositional nationalist identity conception, and that its nuclear

capacities are likely constrained by this sultanistic regime's organizational and managerial shortcomings. In short, my analysis suggests that the DPRK dearly wants the bomb, but also that it may not be able to get it. Moreover, I have shown that the evidence that does exist—notably from the archives of the DPRK's former communist comrades and the paltry results of the DPRK's recent strategic weapons tests—fits my perspective better than it does the IR perspectives enunciated by Cha and Kang. It is certainly impossible at present to gather sufficient evidence to truly validate any assessment of DPRK intentions and capacities, but this alternative assessment should help to forestall premature cognitive closure in our interpretations of this case.

The analysis so far has been resolutely strategic and long-term in its orientation. It has not entered into speculation about the causes of the myriad twists and turns in the DPRK's nuclear diplomacy, including its willingness to freeze its overt program for several years under the Agreed Framework, or the headlong drive it made toward the bomb after the collapse of the Agreed Framework in 2002, or its fluctuating commitment to the ongoing Six-Party Talks. Of course, such tactical questions are very important from a policy standpoint. It certainly matters, for instance, that the DPRK has tested a nuclear explosive device, and it matters that the test occurred in 2006 and not in 1996. To some extent, the theoretical avenues introduced here could prove helpful for understanding the regime's tactics. For instance, for a mix of institutional and psychological reasons, neopatrimonial regimes very often display extremely mercurial policy tendencies.[75] But we should not underestimate the real distinction to be made between tactical and strategic decisionmaking, and in the final analysis it is the latter that counts most.

Admittedly, it is often difficult to determine if opaque regimes such as the DPRK have taken definitive, strategic decisions. For instance, my interpretation of the DPRK's concessions in the Six-Party Talks as merely "tactical" is not universally shared. Various journalistic and other analyses have portrayed the DPRK's recent diplomatic commitments, and particularly its September 2007 agreement to finally "disable" the key nuclear facilities at Yongbyon and hand over a complete accounting of its entire nuclear estate by the end of the year, as indeed reflecting a more fundamental strategic decision by Pyongyang to end its nuclear weapons quest in return for economic aid and diplomatic recognition. The fact that the December 31 deadline came and went without the DPRK's fulfilling either promise casts doubt on that optimistic interpretation.[76] But nevertheless, as ever with the DPRK, almost any interpretation is within the realm of possibility.

The thrust of my argument goes strongly against the notion that the DPRK will ever undertake complete, verifiable, irreversible nuclear disarmament so long as Kim Jong Il remains in power. Indeed, it even leads one to be somewhat skeptical that the regime will even make good on its relatively modest concrete Six-Party Talks commitments, since taking those actions might hamper its ability to build the nuclear arsenal that it has sought for so long.[77] But we cannot predict the future. Our theories therefore need to be flexible enough to accommodate surprising behavior, although not so flexible that any behavior can be read as theoretical "confirmation." And indeed under certain specific conditions, the theory I present in this article could accommodate a DPRK decision to turn away from nuclear weapons, even if Kim Jong Il remains where he is. This is because my expectations of the DPRK's behavior have been based not only on the core assumptions of the theory, but also on certain *empirical* claims about the DPRK—claims on which the logic of the theory does not depend. If any of these empirical claims turned out to be wrong, then the DPRK's future behavior could be very different from my expectations and yet still not contradict the basic theoretical model. In particular, I highlight here three key empirical claims I have made that, if incorrect, might suggest a very different outlook on future DPRK actions.

The first possibly questionable empirical claim I have made is that public statements, if selected carefully and analyzed properly, can be used to reveal the "private" national identity conception of the top DPRK leadership. I previously noted that the interpretation of Kim Il Sung's NIC as oppositional nationalist on the basis of his New Year's addresses is hard to dispute, since it has been corroborated by other scholars who formed their judgments on the basis of documented statements made behind closed doors. But we do not have access to similar archival materials for the Kim Jong Il period; and, to make matters worse, Kim Jong Il does not give New Year's addresses himself but rather is said merely to be behind the joint New Year's editorials that appear, unsigned, in the major North Korean dailies. Therefore, there is no denying that the evidentiary basis for coding Kim Jong Il as an oppositional nationalist is less than solid. If, in fact, this coding turned out to be incorrect—if, for instance, Kim Jong Il's true NIC were closer to being merely nationalist rather than oppositional nationalist—then complete denuclearization might well be possible, particularly if the survival of the regime were seen as hanging in the balance.

The second possibly questionable empirical claim I have made is that, when it comes to setting strategic objectives in the nuclear area, Kim Jong Il's word is the law. But again, due to the opacity of the North Korean

state, we cannot be certain that this is the case.[78] If instead, as some have suggested, Kim Jong Il is engaged in some sort of power-sharing arrangement with the DPRK military—and if this power sharing extends to nuclear policy—then even if Kim's NIC were indeed oppositional nationalist, it might not be determinative for DPRK nuclear behavior. (Of course, the army top brass could share Kim's oppositional nationalist NIC, and in that case the fact of power sharing would not matter much here.)

The third possibly questionable empirical claim I have made is that the DPRK nuclear program is still technically afloat, or at least that the regime leadership has not lost all faith in the program's ability to eventually deliver the goods. Although nationalists can be quite self-deluding and although neopatrimonial rulers tend to be given only good news, hard technical realities can in the long run disillusion even the most fervent nuclear dreamers. According to the US WMD Commission, one of the more likely causes of Muammar Qaddafi's 2003 decision to abandon his country's unsafeguarded nuclear program was the simple truth that after three decades of effort the program had gone absolutely nowhere.[79] This article has provided sketchy evidence that the DPRK nuclear program too could well be woefully underperforming. It is therefore at least conceivable that the program's problems are so endemic that even Kim Jong Il knows that there is no hope and is therefore ready to sell off his program. This line of reasoning could also explain more limited steps—for instance, if the DPRK finally accepted the definitive dismantlement of its dilapidated reactor at Yongbyon, it might simply be because that reactor is no longer functional.

In sum, although I have argued that the weight of the evidence suggests that Kim Jong Il is indeed an oppositional nationalist who is in full control of his state and has not lost faith in his nuclear program, nevertheless, because real evidence is in short supply, alternative claims are certainly plausible. And since they are plausible, the theory presented in this article is not inconsistent with an eventual decision by Kim Jong Il to end the DPRK's nuclear effort. Therefore it makes sense to engage the DPRK, and indeed Kim Jong Il *personally*, in serious diplomatic negotiations aiming at bringing down the curtain on the DPRK's nuclear ambitions.

In fact, however, even if one had no hope that the DPRK would ever fully end its nuclear program, there would still be plenty of reason to engage with it diplomatically in the context of the Six-Party Talks. It is important not to lose sight of the fact that the DPRK, with or without nuclear weapons, is at best a minor power. As such, it does not and cannot pose the central danger to Northeast Asian security. Rather, the

central danger is that cohesion among the major powers in the region could break down. Therefore, the central goal for those powers must be to sustain cohesion. The DPRK's obstreperous behavior has often been rather useful toward this end—witness the renewed relationship that China and Japan developed in the immediate aftermath of Pyongyang's 2006 nuclear test. But obstreperous behavior by the United States vis-à-vis the DPRK could easily fray the fragile bonds that hold the region together. China and South Korea in particular have clear interests in staying on a diplomatic path. Their preference is in itself sufficient reason to support multilateral engagement with Pyongyang. If the bigger powers in the region can demonstrate their responsiveness to each other's preferences, they will build trust between them. And in that case the peace of Northeast Asia will hold, whatever the DPRK may do.

Appendix

The coding procedures can be summarized as follows. First, to find the key comparison other(s), I counted paragraph by paragraph the number of references to one or another external actor (human communities that are not based primarily inside our borders). The more paragraphs in which an external actor is referred to, the more claim it has to be a key comparison other.[80] Second, to gauge the level of "opposition," I took the ratio of the total number of paragraphs making reference to key comparison others versus that number plus the total number of paragraphs making reference to wider communities that include both "us" (Korea) and the key comparison other.[81] This ratio can be expected to reflect the level of "opposition," because it is a well-known finding of social psychological research that an oppositional identity is hard to maintain if "we" and "they" are also understood to be connected under a strong transcendent identity that covers us both. Third, to gauge the level of "nationalism," I took the ratio of the total number of paragraphs that contained only references to key comparison others versus that number plus paragraphs that contained such references and *also* references to a wider community in which we play a part (for this measure, that wider community may, but need not, include the key comparison other).[82] This ratio can be expected to reflect the level of "nationalism," because social psychological research also has found that a willingness to compare oneself directly with the key comparison other suggests high self-esteem, while a tendency to use a wider community as a screen to avoid that head-to-head comparison suggests low self-esteem.

Below I list the quantitative results in tabular form.

Counts of References to External Others

Count of Other	KIS 1975–1979	KIS 1980–1984	KIS 1985–1989	KIS 1990–1994	KJI 1995–1999	KJI 2000–2005	KJI 2006–2008	Grand Total
Generic foreign others	55	65	77	125	113	149	99	683
SK regime	31	24	118	107	61	60	22	423
United States	34	25	69	62	40	40	18	288
World community	19	20	66	62	22	33	14	236
Imperialist club	2	5	30	38	35	57	12	179
Communist community	8	6	30	21	6	0	0	71
Japan	12	6	16	8	9	16	2	69
Progressive community	9	7	17	7	10	2	2	54
Progressive others	7	8	11	11	1	2	0	40
Communist others	4	2	11	8	4	2	0	31
Third world community	4	2	13	7	1	0	0	27
Third world others	5	4	10	6	2	0	0	27
Asia community	1	0	4	3	4	1	1	14
USSR	0	0	7	0	1	0	0	8

Note: KIS = Kim Il Sung; KJI = Kim Jong Il. No other "other" received more than two references in the dataset.

Levels of Opposition and Nationalism and Confidence Intervals (CIs)

Leader and Period	Generic Foreign Other References	Level of Opposition	95% CI Lower Bound	95% CI Upper Bound	Level of Nationalism	95% CI Lower Bound	95% CI Upper Bound
KIS 1975–1979	55	0.74	0.64	0.84	0.78	0.67	0.89
KIS 1980–1984	65	0.76	0.67	0.85	0.82	0.72	0.91
KIS 1985–1989	77	0.54	0.46	0.62	0.75	0.66	0.85
KIS 1990–1994	125	0.67	0.60	0.74	0.66	0.57	0.74
KJI 1995–1999	113	0.84	0.77	0.90	0.79	0.71	0.86
KJI 2000–2005	149	0.82	0.76	0.87	0.89	0.83	0.93
KJI 2006–2008	99	0.88	0.82	0.94	0.89	0.83	0.95

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Notes

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1. Richard K. Herrmann and Jong Kun Choi, "From Prediction to Learning: Opening Experts' Minds to Unfolding History," *International Security* 31, no. 4 (Spring 2007): 132–161.

2. Jeffrey Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea* (New York: W. W. Norton, 2006). For a systematic analysis of Richelson's evidence, see Alexander Montgomery and Adam J. Mount, "Misunderestimation: Explaining US Failures to Predict Nuclear Weapons Programs," paper presented at the 2006 American Political Science Association meeting. See also Torrey C. Froscher, "Anticipating Nuclear Proliferation: Insights from the Past," *Nonproliferation Review* 13, no. 3 (November 2006): 467–477.

3. For an overview of the literature, see Andrew Scobell, "North Korea's Nuclear Intentions," in James M. Lister, ed., *Challenges Posed by the DPRK for the Alliance and the Region* (Washington, DC: Korea Economic Institute, 2005), pp. 78–95.

4. Victor D. Cha and David C. Kang, *Nuclear North Korea: A Debate on Engagement Strategies* (New York: Columbia University Press, 2003).

5. This is part of a more general trend in East Asian studies. See Stephan Haggard, "The Balance of Power, Globalization, and Democracy: International

Relations Theory in Northeast Asia," *Journal of East Asian Studies* 4, no. 1 (January–April 2004): 1–38. A powerful application of general social science theory to the case of North Korea is Stephan Haggard and Marcus Noland, *Famine in North Korea: Markets, Aid, and Reform* (New York: Columbia University Press, 2007).

6. Cha and Kang, *Nuclear North Korea*, p. 3.

7. The seminal text, recently republished with commentary from contemporary comparative foreign policy scholars, is Richard Snyder, H. W. Bruck, and Burton Sapin, *Foreign Policy Decision-Making (Revisited)* (New York: Palgrave Macmillan, 2002).

8. Recently, Etel Solingen has also applied a foreign policy analysis framework to the North Korean nuclear issue (Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* [Princeton: Princeton University Press, 2007]). Solingen's basic argument is that leaderships that are "inward-oriented" (particularly with respect to their economic development strategies) have a tendency to promote "nuclearization," whereas leaderships that are "internationalizing" have a tendency to promote "denuclearization." Solingen therefore naturally concludes that the DPRK, with its thoroughly inward-oriented leadership, would likely pursue nuclearization. Solingen's model is largely complementary with the model that I develop below. The major difference between them is in their definition of the dependent variable. Solingen is interested in nuclearization, which she defines as "movement *toward* nuclear weapons acquisition, even if it does not result in actual acquisition" (Solingen, *Nuclear Logics,* p. 301, note 1). By contrast, the key puzzle for this article—and indeed the key puzzle for all analysts of the DPRK nuclear issue—is whether, when, why, and how Pyongyang would make and then implement a decision to acquire the bomb. Solingen's model is silent on this puzzle.

9. For a brief review, see Jacques E. C. Hymans, "Theories of Nuclear Proliferation: The State of the Field," *The Nonproliferation Review* 13, no. 3 (November 2006): 455–465.

10. For further elaboration, see Jacques E. C. Hymans, *The Psychology of Nuclear Proliferation: Identity, Emotions, and Foreign Policy* (Cambridge: Cambridge University Press, 2006), especially chs. 1–2.

11. One vote for the relevance of classical deterrence theory is cast by President Musharraf of Pakistan, who despite sitting on a sizable nuclear arsenal found US threats of bombing his country "back to the Stone Age" in the aftermath of the September 11 attacks to be highly credible. See Pervez Musharraf, *In the Line of Fire: A Memoir* (New York: Free Press, 2006).

12. The incredible complexity of the nuclear choice, and therefore the futility of trying to squeeze it into a standard cost-benefit framework, is powerfully conveyed in Amartya Sen, "India and the Bomb," *Journal of Peace Economics, Peace Science and Public Policy* 6, no. 4 (Fall 2000): 16–34.

13. See Ole Holsti, "Foreign Policy Formation Viewed Cognitively," in Robert Axelrod, ed., *Structure of Decision* (Princeton: Princeton University Press, 1976). For a clarion call for recognizing that the constraints on pure rationality are not merely informational but also cognitive in nature, see John S.

Odell, "Bounded Rationality in the World Political Economy: The Nature of Decision Making," in David M. Andrews, C. Randall Henning, and Louis W. Pauly, eds., *Governing the World's Money* (Ithaca: Cornell University Press, 2002). A review of recent research on "bounded rationality," which especially emphasizes the importance of affect and the emotions, is Daniel Kahneman, "Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice," Nobel Prize Lecture, December 8, 2002, available at http://nobelprize.org/nobel_prizes/economics/laureates/2002/kahnemann-lecture.pdf. Parenthetically, Kahneman's lecture shows how far his work has evolved beyond prospect theory's originally quite modest suggestions of deviations from pure rationality.

14. Of course, external stimuli are necessary to put the question of going nuclear on the political agenda. But given the fear emotion's tendency to magnify external threats, those stimuli need not be very large. For the full elaboration of this model, see Hymans, *The Psychology of Nuclear Proliferation*, ch. 2.

15. Jean Delumeau, *Rassurer et protéger. Le sentiment de sécurité dans l'Occident d'autrefois* (Paris: Fayard, 1989).

16. The specific symbolism of nuclear weapons is explored in Robert Jervis, *The Meaning of the Nuclear Revolution* (Ithaca: Cornell University Press, 1989).

17. For more on the notion of decisions without calculations, see Stephen P. Rosen, *War and Human Nature* (Princeton: Princeton University Press, 2005). Also of interest on this point is Neta C. Crawford, "The Passion of World Politics: Propositions on Emotion and Emotional Relationships," *International Security* 24, no. 4 (Spring 2000): 116–156.

18. See Hymans, *The Psychology of Nuclear Proliferation*, especially pp. 195–203.

19. In truth, the eras of the father and the son are not so clearly distinguishable. Kim Jong Il began taking over much of the day-to-day business of the state as early as 1980; by the early-1990s nuclear crisis, it was clear that he, not his father, was calling most of the shots. Indeed, when Kim Il Sung met with Jimmy Carter during the nuclear crisis of 1994, he appeared almost as unfamiliar with his country's negotiating stance as Carter was with that of the Clinton administration. See Don Oberdorfer, *The Two Koreas: A Contemporary History* (Reading, MA: Addison-Wesley, 1997), p. 328.

20. Note that even in regimes where the general dominance of the top leadership is not so extreme, *nuclear* decisionmaking tends to be highly concentrated in its hands. See Daniel Poneman, *Nuclear Power in the Developing World* (Boston: Allen & Unwin, 1982), ch. 9.

21. Kathryn Weathersby, "The Enigma of the North Korean Regime: Back to the Future?" in James M. Lister, ed., *Challenges Posed by the DPRK for the Alliance and the Region* (Washington, DC: Korea Economic Institute, 2005), p. 46. Note that Weathersby argues that Kim Il Sung's confidence began to break down in the 1980s.

22. Bruce Cumings, *Korea's Place in the Sun: A Modern History* (New York: W. W. Norton, 1997); Ralph Hassig and Kongdan Oh, *North Korea*

Through the Looking Glass (Washington, DC: Brookings Institution Press, 2000); Balazs Szalontai, *Kim Il Sung in the Khrushchev Era: Soviet-DPRK Relations and the Role of North Korean Despotism, 1953–1964* (Washington, DC: Woodrow Wilson Center Press, 2005).

23. Herbert Kelman, "Social-Psychological Dimensions of International Conflict," in I. William Zartman and J. Lewis Rasmussen, eds., *Peacemaking in International Conflict: Methods and Techniques* (Washington, DC: United States Institute of Peace Press, 1997).

24. Cumings, *Korea's Place in the Sun*, p. 403; Scobell, "North Korea's Strategic Intentions," p. 14.

25. Cumings, *Korea's Place in the Sun*, p. 403; for more elaboration on the Japanese connection, see Sheila Miyoshi Jager, "Women, Resistance, and the Divided Nation: Women and the Romantic Rhetoric of Korean Reunification," *Journal of Asian Studies* 55, no. 1 (February 1996), especially p. 45.

26. Alexander V. Vorontsov, "North Korea's Military-First Policy: A Curse or a Blessing," Nautilus Institute Policy Forum Online 06-45A (June 8, 2006), available at www.nautilus.org/fora/security/0645Vorontsov.html. See also Patrick McEachern's article in this issue.

27. Samuel S. Kim, "Research on Korean Communism: Promise Versus Performance," *World Politics* 32, no. 2 (January 1980), especially pp. 303–304.

28. This is an inheritance from earlier Korean racial nationalist historiography, which also has influenced contemporary South Korean views. See Andre Schmid, "Rediscovering Manchuria: Sin Ch'aeho and the Politics of Territorial History in Korea," *Journal of Asian Studies* 56, no. 1 (February 1997): 26–46.

29. For Kim Il Sung's addresses, I relied on English translations that were produced after 1975 by the Foreign Broadcast Information Service (FBIS) *Asia and Pacific Daily Report*; for the joint editorials, I relied on English translations produced contemporaneously by the DPRK itself. While speeches prior to 1975 are also available in collections of Kim Il Sung's works published by the DPRK, I limit the analysis to the post-1975 period for two reasons: first, because before the mid-1970s, the notion of an indigenous DPRK nuclear bomb was quite implausible except perhaps to the truest of true believers; and, second, because for earlier years, no FBIS translation is available, and the regime is known to have a practice of rewriting old texts to bring them into conformity with contemporary ideological positions.

30. See Hymans, *The Psychology of Nuclear Proliferation*, ch. 3.

31. Ibid.

32. Alexander L. George, *Propaganda Analysis: A Study of Inferences Made from Nazi Propaganda in World War II* (Evanston, IL: Row, Peterson, 1959).

33. Cha and Kang, *Nuclear North Korea*, p. 45. Though he is less explicit about dates than Kang, Cha also argues that the period 1989–1994 was a key turning point in causing the DPRK regime to go "double or nothing" (p. 30).

34. Balazs Szalontai and Sergey Radchenko, "North Korea's Efforts to Acquire Nuclear Technology and Nuclear Weapons: Evidence from Russian

and Hungarian Archives," CWIHP Working Paper No. 53, Cold War International History Project, August 2006.

35. Cumings, *Korea's Place in the Sun*, p. 467. Other clear statements of DPRK nuclear weapons intent are reported in Oberdorfer, *The Two Koreas*, p. 253.

36. Soviet Foreign Ministry memorandum, August 24, 1962, translated and reprinted in Szalontai and Radchenko, "North Korea's Efforts," p. 33. Chol goes on to mention China's nuclear program, but clearly he is not talking only about China.

37. The report pointedly remarks that the North Korean translator chose not to render the latter sentence into German. Botschaft der DDR in der KVDR, "Aktenvermerk über ein Abendessen in der Residenz, das vom Gen. Botschafter Henke und seiner Gattin am 6. 12. 1969 in der Zeit von 19.30 Uhr bis 22.30 Uhr gegeben wurde," Pyongyang, December 13, 1969, document viewed at the German Historical Institute in Washington, DC. My translation.

38. Hungarian Foreign Ministry memorandum, February 16, 1976, translated and reprinted in Szalontai and Radchenko, "North Korea's Efforts," p. 55.

39. Szalontai and Radchenko, "North Korea's Efforts," p. 10.

40. Ibid., pp. 2, 25.

41. The DPRK's report to the IAEA had not completely denied that these efforts had taken place, but it had been untruthful about their extent.

42. See Joel S. Wit, Daniel B. Poneman, and Robert L. Gallucci, *Going Critical: The First North Korean Nuclear Crisis* (Washington, DC: Brookings Institution Press, 2004).

43. Richelson, *Spying on the Bomb*, pp. 522–524. The State Department was somewhat more circumspect about this judgment.

44. Cha and Kang, *Nuclear North Korea*, p. 145.

45. For estimates of the DPRK plutonium stockpile, see the reports by David Albright and the Institute for Science and International Security, available at www.isis-online.org/publications/dprk/index.html.

46. The inadequate attention paid to difficult measurement tasks in the nuclear issue area is explored in Lynn Eden, *Whole World on Fire: Organizations, Knowledge, and Nuclear Weapons Devastation* (Ithaca: Cornell University Press, 2004).

47. Donald MacKenzie and Graham Spinardi, "Tacit Knowledge, Weapons Design, and the Uninvention of Nuclear Weapons," *American Journal of Sociology* 101, no. 1 (July 1995): 44–99.

48. See Commission on the Intelligence Communities of the United States Regarding Weapons of Mass Destruction, Report to the President, March 31, 2005, available at www.wmd.gov/report, ch. 2.

49. For Sagan's point of view, see Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W. W. Norton, 2002).

50. See Christopher S. Clapham, *Third World Politics: An Introduction* (Madison: University of Wisconsin Press, 1985). In this issue, Walter C. Clemens Jr. offers a broadly similar Weberian take on the DPRK case.

51. Houchang E. Chehabi and Juan J. Linz, eds., *Sultanistic Regimes* (Baltimore: Johns Hopkins University Press, 1998), p. 9.

52. Stephan Haggard and Marcus Noland second the notion of the regime's extreme personalism in terms of economic policy. Haggard and Noland, *Famine in North Korea*, p. 227. For a great deal of instructive detail, see Bradley K. Martin, *Under the Loving Care of the Fatherly Leader: North Korea and the Kim Dynasty* (New York: Thomas Dunne Books [St. Martin's Griffin], 2006).

53. Marcus Noland, "Transition from the Bottom-Up: Institutional Change in North Korea," Working Paper, Institute for International Economics, March 20, 2006. Noland's identification of the DPRK as "patrimonial"—albeit "with a more efficient state apparatus than, for example, Iraq under Saddam Hussein"—is on p. 12.

54. The "Confucian" bureaucracy of imperial China, with its rigorous, objective, knowledge-based bureaucratic system of selection and advancement, clearly bears very little resemblance to the thoroughly politicized structures built by the Kims.

55. In this issue, Patrick McEachern makes a spirited case for interpreting the DPRK as a system in transition from "totalitarianism" to "institutional pluralism." In particular, he claims that policymaking is increasingly influenced by state "technocrats," notably in the foreign ministry and economic affairs. But to date there is little solid evidence of technocratic administration in North Korea, even if more state officials have university degrees than used to be the case. The International Country Risk Guide gives the DPRK a Bureaucratic Quality score of 0, the lowest possible score—and one shared by only nine other states in the entire world. And even McEachern admits that Kim Jong Il, who still plays the "central role," has been steadily "personalizing his bureaucracy," including the military. This suggests a trend away from technocratic administration.

56. Note that the DPRK's sultanism and its oppositional nationalism, though empirically intertwined, are analytically two separate aspects of its makeup; there is no logical requirement that sultanism and oppositional nationalism (and thus nuclear weapons ambitions) must go together.

57. For more on the basic tasks of management, see Paul Milgrom and John Roberts, *Economics, Organization and Management* (Englewood Cliffs, NJ: Prentice Hall, 1992).

58. The identification of a regime as sultanistic means that standard political science "bureaucratic politics" models will be useless for analyzing its decisionmaking. In sultanistic regimes, due to the penetration of state institutions by the top leader, there is no such thing as bureaucratic self-interest; bureaucrats pursue only personal self-interest.

59. The WMD Commission Report refers to Libya as an "inept bungler, the court jester among the band of nations seeking biological or nuclear capabilities" (ch. 2).

60. Kevin Woods, James Lacey, and Williamson Murray, "Saddam's Delusions: The View from the Inside," *Foreign Affairs* 85, no. 3 (May–June 2006), pp. 2–26.

61. For the Romania analogy, see Chehabi and Linz, *Sultanistic Regimes*, pp. 9, 35; and Haggard and Noland, *Famine in North Korea*, p. 211.

62. Agence France-Presse, "Romania Produced Plutonium Under Ceausescu: IAEA Sources," June 17, 1992 (accessed on Lexis-Nexis).

63. Robert Koenig, "Science Emerges from the 'Dark Age' of the Ceausescus," *Science* 280, no. 5371 (1998): 1829.

64. "A CANDU Fiasco in Romania," Canadian Broadcasting Corporation television report, available at archives.cbc.ca/IDC-1-75-104-907/science_technology/candu/clip9. Note that due to a tiff over money and the Ceausescu regime's penchant for secrecy, the Canadians were largely sidelined from the project not long after it began.

65. Donald Anderson, e-mail communication with the author, May 8, 2006.

66. For more on the Chinese success story—and on its numerous brushes with failure—see Evan Feigenbaum, *China's Techno-Warriors: National Security and Strategic Competition from the Nuclear to the Information Age* (Stanford: Stanford University Press, 2003); John Wilson Lewis and Xue Litai, *China Builds the Bomb* (Stanford: Stanford University Press, 1988), and Benjamin C. Ostrov, *Conquering Resources: The Growth and Decline of the PLA's Science and Technology Commission for National Defense* (Armonk, NY: M. E. Sharpe, 1991).

67. See Richard L. Garwin and Frank N. Von Hippel, "A Technical Analysis of North Korea's October 9 Nuclear Test," *Arms Control Today*, available at www.armscontrol.org/act/2006_11/NKTestAnalysis.asp; and Jungmin Kang and Peter Hayes, "Technical Analysis of the DPRK Nuclear Test," Policy Forum Online 06-89A (October 20, 2006), available at www.nautilus.org/fora/security/0689HayesKang.html.

68. Kang and Hayes, "Technical Analysis of the DPRK Nuclear Test."

69. Reuters, "CIA Says North Korea Nuclear Test Failed," March 28, 2007.

70. On the regime's basic economic woes, see Haggard and Noland, *Famine in North Korea*, especially ch. 8. Haggard and Noland rightly note that the reasons for these woes may be political and institutional more than intellectual, but whatever their source they seem incredibly durable.

71. And the regime had also stopped inviting Soviet scientific visitors already by the early 1970s. Of course, since the end of the Cold War the DPRK may have recruited former Soviet scientists to help its program along, though its legendary xenophobia leads one to suspect that it would not put itself in a position of dependence on them. See Alexander Zhebin, "A Political History of Soviet–North Korean Nuclear Cooperation," in James Clay Moltz and Alexandre Y. Mansourov, eds., *The North Korean Nuclear Program: Security, Strategy, and New Perspectives from Russia* (New York: Routledge, 2000), pp. 29–30.

72. Alexandre Mansourov, "The Natural Disasters of the Mid-1990s and Their Impact on the Implementation of the Agreed Framework," in Moltz and Mansourov, *The North Korean Nuclear Program*, p. 78.

73. "North Korea Restarts Nuclear Reactor," Global Security Newswire, June 4, 2007, available at www.nti.org. See also "North Korea Reactor in Poor Shape," Global Security Newswire, March 30, 2007.

74. It is often claimed that the DPRK's missile program proves its capacity to succeed at high-tech R&D efforts. But the missile program is no world-beater. In the decade and a half since the DPRK's first, marginally successful, intermediate-range Nodong missile test of 1993, Iran and Pakistan as well as the DPRK have tested variants of the missile. About half of these tests have been modest successes and the other half disasters. As for the DPRK's longer-range missile development efforts—theoretically of much more concern to the United States—the booster rockets in the DPRK's "satellite launcher" (Taepodong-1) test of 1998 and in its long-range, multistage Paektusan missile (Taepodong-2) test of 2006 "failed dismally," according to noted defense analyst Anthony Cordesman. Cordesman continues with a stern lesson for the scaremongers: "In the real world, it is only possible to talk about missile performance once a system is actually deployed and tested, its warhead is known, and enough firings have taken place to confirm actual operational capability. Computer models can help, but they have proved to be wrong again, and again, and again. Speculating about guidance platforms, warhead type of weight, the size of the booster, and other technical factors is guesswork—not fact" (Anthony Cordesman, "North Korea's Missile Tests: Saber Rattling or Rocket's Red Glare?" CSIS publication, July 5, 2006, available at www.csis.org/media/csis/pubs/060705_cordesman_korea.pdf). For more on the DPRK's 1993 and 1998 tests, see Joseph S. Bermudez, "A History of Ballistic Missile Development in the DPRK," Center for Nonproliferation Studies Occasional Paper No. 2, 1999; for more on Iran's program and the DPRK connection, see Dinshaw Mistry, "Assessing Iran's Missile Capabilities," *Arms Control Today*, October 2007.

75. See Rosen, *War and Human Nature*, especially p. 156.

76. N.B.: As I write these words, it is mid-January 2008.

77. Hamper, but not prevent. "Disablement" is a neologism that has been invented in the context of the Six-Party Talks to indicate a step beyond a mere "freeze," but not all the way to "dismantlement." Theoretically, it would take about a year of effort to bring "disabled" nuclear facilities back into operation.

78. And as noted previously, McEachern in this issue argues that it may not be the case.

79. Commission on the Intelligence Communities of the United States Regarding Weapons of Mass Destruction, Report to the President, March 31, 2005, ch. 2.

80. Note, however, that qualitative interpretation must also be taken into account in making this judgment. Indeed, it is inescapable that qualitative choices will drive the quantitative results. These issues are explored in Hymans, *The Psychology of Nuclear Proliferation*, ch. 3; a complete explanation of coding procedures is also given in ch. 3 and in the book's appendix.

81. Quantitatively, this relationship is expressed as follows: (# of references to the key comparison other)/(# of references to key comparison other +

# of references to wider communities in which we and they play a part). For heuristic purposes, one can think of a score greater than 0.5 as reflecting an "oppositional" identity.

82. Quantitatively, this relationship is expressed as follows: (# of "naked" references to key comparison other)/(# of "naked" references to key comparison other + # of "screened" references to key comparison other). For heuristic purposes, one can think of a score greater than 0.5 as reflecting a "nationalist" national identity.