Insights into Kim Jong-un’s Cognition from his Public Speeches

Pre-Summit Effort
Strategic Multilayer Assessment (SMA) of Strategic Outcomes in the Korean Peninsula

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UNCLASSIFIED
Juche political philosophy is a key rhetorical framework, but Kim Jong-un is emphasizing it and his father and grandfather less.

Nuclear capability is seen as a necessary deterrent against US dominance and a point of national pride

- However, in the structure of his argument, a nuclear deterrent is the consequence of multiple factors but NOT conceived as a capacity to accomplish additional objectives

KJU discourse emphasizes DPRK capability/opportunity, self-interest and national identity, but rarely mentions China or foreign trade

- Two different measurement methods indicate that the complexity of KJU argumentation is exceedingly low – suggesting a tendency to make categorical, black-or-white judgments, intolerance of ambiguity, and failure to consider the trade-offs that may be required to achieve objectives that involve the actions of others

If Kim indicates a reduced need for power, one cannot expect a reduction in weapons testing

KJU appears to have a strong motive to control and manipulate others, to defend his own views and plans without adjusting them

Kim’s speeches exhibit language patterns that have been associated with dishonesty, but recent trends are toward relatively less dishonesty

Focus on providing/writholding things Kim can see as enhancing DPRK capability/opportunity and self-interest (military and aid)

China may not have the influence over KJU we assume

Foreign trade may appear to be politically problematic for the regime

Play to his strong need for control and black-white judgements

Have low confidence in his honesty, despite shifts away from his typically dishonest speech patterns
Agenda

- DPRK Cultural/Political Primer – A Necessary Background
- Corpus
- Analyses
  1. Empathy Checklist (U Birmingham)
  2. Basic Emotions (NSI)
  3. Cognitive Complexity (NSI)
  4. Quantitative Discourse Analysis (NSI/IPFW)
  5. Thematic Content Analysis – Integrative Complexity and Motive Imagery (UBC)
  6. Discourse of Deception (NSI)
- Summary Findings
- Summary Implications
North Korean Cultural/Political Primer

Juch’ë Philosophy
Confucianism
Stalinist (Strong Leader) Communism
Korean Nationalism
National Self-reliance
Personality cult focused on the Kim family
Developed by Kim Il-sung
Juch’ë formally adopted into constitution in 1972

Songun – “Military First”
Military prioritized politically economically, socially, culturally

Ten Principles of Juch’ë 1972
1. Sacrifice
2. Loyalty
3. Absolute Authority of Great Leader
4. Leader’s Command is Faith and Creed
5. Unconditional Obedience
6. Unity
7. Communism
8. Political Awareness
9. Strong Regulations
10. Pass Revolution on
Kim Jong-un Corpus

What did we analyze? (All analyses shared same corpus)
• 41 public speeches and missives from Jan 2012 to Jan 2018

Items Coded (Analyses 1,2,3,6)
338 themes and rhetorical devices; 21,775 coded segments
• **Nominalized Themes** – nominalized entities that represent culturally relevant persons, places, things, events, emotions, and ideas
• **Emotive Themes** – themes that evoke an emotional response; e.g. victimization; victory; strength; national pride
• **Rhetorical Devices** – ways of using language (sarcasm, repetition, special word use, figurative language, pejoratives)
• **Empathy and Basic Emotions** – ways of connecting with an audience and the expression of deep emotion
• **Discourse of Deception Metrics** – Law enforcement research operationlized to code for language use that indicates deception

Key Metric:
• **Density** = # occurrences / words in document
Checklist for Empathy provides insights for how a speaker can empathize and influence an audience

- **Self-interest**: What material benefits may they gain or lose?
- **Fairness**: “How fair will it be seen from the audiences’ perspectives?” Humans typically pay costs to reject unfairness and pursue grievances”.
- **Fear**: “Do they fear for their security and why?”
- **Identity**: “What are their key identities?” Humans are driven to form groups (“us”, the “in-group”) that are contrasted against other groups (“them”, the “out-group”). Individuals also often hold multiple overlapping identities
- **Status**: “How may this affect the audience’s self-perceived status?” E.g. For key audiences in Afghanistan, joining the Taliban had high status.
- **Expectations**: “What are their key expectations, and what may violate them? The more unexpected a perceived event is, the bigger its psychological impact.
- **Context, opportunity and capability**: “What opportunities and capabilities does the audience perceive it has for its potential alternative actions?” E.g. an intervention to encourage someone to pay taxes who is actively avoiding paying taxes, differs to that for someone who feels unable to use an online system.
<table>
<thead>
<tr>
<th>Empathy Question</th>
<th>Discourse codes</th>
<th>Additional strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-interest?</td>
<td>Progress, Prosperity, Economic_Development</td>
<td>&quot;living standards&quot;; &quot;standard of living&quot;</td>
</tr>
<tr>
<td>Fear?</td>
<td>Aggression, Conspiracy, Cruel, Danger, Enemy, Extreme_Radical, Threat</td>
<td>fear; fright; dread; distress; forebod</td>
</tr>
<tr>
<td>Identity?</td>
<td>Homeland, Monuments, National_Identity, Patriotism, The_People, Unity, Masses, Nationalism, Other_Outgroup</td>
<td>—</td>
</tr>
<tr>
<td>Status?</td>
<td>Great_Power, Superiority</td>
<td>—</td>
</tr>
<tr>
<td>Expectations?</td>
<td>—</td>
<td>surpris; sudden shock; struck unforeseen; unexpected; ambush; trap; &quot;out of the blue&quot;; &quot;without warning&quot;; &quot;from left; field&quot;</td>
</tr>
<tr>
<td>Opportunity/ Capability?</td>
<td>Ability, Confidence, Military, Space, Success, Victory</td>
<td>—</td>
</tr>
</tbody>
</table>
### Analysis 2

#### Other Basic Emotions (NSI)

<table>
<thead>
<tr>
<th>Basic Emotion</th>
<th>Discourse codes</th>
<th>Additional strings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>Independence, Self-reliance, Sovereignty</td>
<td>—</td>
</tr>
<tr>
<td>Honor/Shame</td>
<td>Honor, Shame, Humiliation, Servitude</td>
<td>—</td>
</tr>
<tr>
<td>Dignity</td>
<td>Dignity, Respect</td>
<td>—</td>
</tr>
<tr>
<td>Outrage</td>
<td>Outrage</td>
<td>—</td>
</tr>
<tr>
<td>Disgust</td>
<td>—</td>
<td>disgust; repug; nausea; detest; loath; repuls; sick; offal</td>
</tr>
</tbody>
</table>

- Psychological Research has identified basic emotions that resonate with people across cultures
What Psychological Aspects Does Kim Jong-un Express?

- Kim Jong-un expresses most of the basic emotions and empathy question components
  - Arbitrary threshold of being more dense than 1 standard deviation used to illustrate his emphases
- Overall, he appears to give prominence to **Opportunity/Capability**, **Identity** and **Self-interest**
- **Surprise and Disgust don’t even register**! May not be factors or, too hard to code automatically
Is KJU’s use of language indicating any changes in his psychology?

- KJU is steadily **decreasing** his emphasis on **Identity**

- KJU exhibits an **accelerating emphasis** on **Status** and **Autonomy**
  - All changes statistically significant below .05 level
Cognitive Maps were created to identify the causal assertions contained in two speeches delivered by KJU -- the "First Speech" in 2012 and the 2018 New Year's Speech.

Measuring the structural characteristics of the map indicates the complexity of the belief system it represents -- measure not what is said, but how -- to indicate how a speaker thinks about a subject.

Measures are below the level of rhetoric and thus extremely difficult to manipulate.

Why is this important?
- Elevated complexity is associated with more cooperative foreign policy behaviors; lower complexity with conflictual behaviors (Maoz and Shayer 1987, Maoz and Astorino 1992, Astorino-Courtois 1995).

5 Complexity Metrics (applied to adjacency matrix raised to the 5th power):
- **Causal Connectedness (CC)** = average causal links among concepts; measures the interdependence among concepts in a belief system.
- **Cyclicality** = measures the indirect effect of a concept on itself (i.e., feedback loops). High cyclicity indicates cognitive complexity.
- **CI** = cognitive imbalance measures the proportion of contradictory connections to balanced causal connections. Tolerance of ambiguity (imbalance) is a mark of high cognitive complexity.
- **EC\(_i\)** = explanatory centrality of an antecedent concept \(i\)
- **C\(_j\)** = centrality of a consequent concept \(j\)
Cognitive Mapping Results

BLUF: Do not expect anything different from DPRK any time soon

Comparative analysis of KJU cognitive maps from 2012 and 2018 shows no evidence of change in DPRK strategy during this period, and no indication that economic development/domestic issues may have supplanted national security concerns.

Q: What *should* we see in KJU’s cognitive map if the regime was considering a major change of direction like eliminating or even reducing nuclear weapons?

A: *Increase in cognitive complexity (causal connectedness, cyclicity and/or imbalance) between 2012 and the 2018 New Year’s Speech*

**Do we see this? Short answer: No**

**Result:** the analysis shows no indication of any change in DPRK strategy or thinking from 2012 to 2018, rather it indicates that the regime's core beliefs and strategy have not changed for past six years

**Result:** Although they appear to be about different things, analysis of the indirect causal connections shows that the two speeches point to the same core set of desired outcomes in 2012 and in 2018

<table>
<thead>
<tr>
<th></th>
<th>Kim Jong-un</th>
<th>Henry Kissinger</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 First Public Speech</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>2018 New Year’s Speech</td>
<td>4.8</td>
<td>14.47</td>
</tr>
</tbody>
</table>

KJU speeches are nearly identical in their extreme simplicity on all 3 measures of structural complexity!

Concepts with highest consequent centrality scores in both speeches (Cj):

1) building a strong socialist state
2) identification of external threats to DPRK
3) condition of the people
4) strength of the DPRK relative to external threats

Analysis 3
Q: What should we see in KJU’s cognitive map if the regime was considering a major re-prioritization from achieving a nuclear deterrent in favor of international cooperation for economic development?

A: Increase in cognitive complexity (causal connectedness, cyclicity and/or imbalance) between 2012 and the 2018 New Year’s Speech, and precedence of economic outcomes in total connections.

Do we see this? Short answer: Probably not

Result: 2018 Speech is fairly equally divided between national security-related concepts (38%; e.g., ability to strike the US mainland), domestic/economic concepts (33%; e.g., increasing DPRK material wealth) and values (29%; e.g., moral discipline) and indicates significant interconnection between economic and national security-related concepts.

Result: Over half (53%) of national security-related outcomes have at least one domestic/economic antecedent, while 73% of economic outcomes are related to at least one national security antecedent possibly indicating prioritization of national security-requirements as prerequisites for economic/domestic change.
Below the level of rhetoric we see 2012 and 2018 speeches are about the same things.

Key Concepts from 2012 and 2018 Speeches

**Analysis 3**

Even in 2018 DPRK nuclear deterrent discussed as an outcome (40%) rather than as an antecedent causing other events or states of being (2%).

**2012**

- Military first policy
- Juche art of war
- Strength of the party
- Party-Army unity
- Ideological purity
- Leadership excellence of KJI
- Leadership excellence of KIS leadership, philosophy

**2018**

- DPRK possessing a powerful deterrent
- Good relations with the ROK
- Party assisting the people
- Party trust in the people
- Easing regional tensions
- Economic sector upgrades

DPRK need for S&T
Reunification
Faith in Juche
DPRK powerful deterrent
Quality of life of the people
External threats
A powerful socialist state

**Centrality of antecedent concepts**

- Military first policy: 40%
- Juche art of war: 30%
- Strength of the party: 20%
- Party-Army unity: 10%
- Ideological purity: 5%
- Leadership excellence of KJI: 0%
- Leadership excellence of KIS leadership, philosophy: 0%

**Centrality of consequent concepts**

- National pride: 40%
- Giving concessions in relations with others: 30%
- A small, weak DPRK: 20%
- Quality of life of the people: 10%
- External threats: 5%
- A powerful socialist state: 0%

% of consequents explained

% of antecedent concepts used to explain
Discourse analysis considers not just what people say, but how people say it
- People deploy language to persuade
- Language also reveals values, goals and motives
- In many cases, speakers are not aware of how their use of language betrays them
- Quantitative discourse analysis uses codes that capture context and linguistic devices and renders these into metrics amenable for statistical modeling and analysis
Quantitative Discourse Analysis: What does KJU Talk about Most?

### Rhetorical Devices
Example
Hyperbole
Intensifiers

### Cultural Themes
Ability
Independence
Masses
Metaphysics
Juch’e
Religious Themes
Overcoming
Pride
Revolution
Songun
Strength
Victory

### Leaders
Kim Il-sung
Kim Jong-il

### Political Themes
Economic Development
Education
Military

- Most important themes:
- Juch’e, Kim family, strength, resilience and independence of DPRK, military, economic development
- All of these are tightly integrated and quantitatively highly intercorrelated
- They cannot simply be separated out as separate bargaining chips
Analysis 4

Quantitative Discourse Analysis of KJU Temporal Trends

- Testing events accelerating through Fall 2017, then none
- Nuclear themes steadily decrease and then spike in 2018
- Religious language (e.g. eternal, sacred, immortal, faith) steadily decreasing
- All trends statistically significant < .05 level
What Does KJU NOT Talk About?

- China is responsible for ~90% of import/export to DPRK and is ostensibly DPRK’s closest ally
- However,
  - Since 2012, KJU has only publicly mentioned China twice, and both times in relation to historic WWII opposition to the Japanese
  - Foreign trade (with anyone) is only alluded to only four times
- Despite DPRK’s dependency on China and our perception that DPRK is badly in need of foreign trade, they are not mentioned.
- According to Juch’e philosophy, DPRK should be an autarky (state with no dependencies on any other)
- Even if DPRK is dependent on others and in need of trade, KJU cannot express this within the overarching Juch’e framework.
- Implication: It would be extremely difficult if not a non-starter, for KJU openly to accept offers of open trade or dependency on other nations; any such offers must be done out of public discourse
Thematic Content Analysis (UBC)

**Integrative Complexity (IC)**
- Integrative Complexity (IC) is a characteristic of cognition, which is related to such aspects of thinking as flexibility, nuance, information search and utilization, openness to new information, perspective-taking, and tolerance for uncertainty and lack of closure.
- IC is a measure of the structure, not the content, of thought.

- **Subcomponents of IC:**
  - **Dialectical complexity** is a measure of the extent to which the speaker recognizes the legitimacy of other perspectives.
  - **Elaborative complexity** is a measure of the extent to which the speaker recognizes the relevance of more than one dimension within a given perspective.

- All coded on a scale of 1 to 7 (low to high)

**Motive Imagery (MI)**
- MI measures the frequency of references related to three major motives: the needs for Achievement (success, excellence), Power (influence, persuasion, control), and Affiliation (close relations, friendship, nurturance).
### Thematic Content Analysis of KJU’s Speech

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrative Complexity</td>
<td>1.49</td>
<td>0.22</td>
</tr>
<tr>
<td>Dialectical Complexity</td>
<td>1.06</td>
<td>0.08</td>
</tr>
<tr>
<td>Elaborative Complexity</td>
<td>1.47</td>
<td>0.21</td>
</tr>
<tr>
<td>Need for Achievement</td>
<td>5.34</td>
<td>2.08</td>
</tr>
<tr>
<td>Need for Affiliation</td>
<td>1.18</td>
<td>1.36</td>
</tr>
<tr>
<td>Need for Power</td>
<td>8.40</td>
<td>2.56</td>
</tr>
</tbody>
</table>

NOTE: All variables were coded manually, and then aggregated to quarter-years. Number of paragraphs = 501; Number of quarters = 18.
Implications of Integrative Complexity (IC) and Motive Imagery (MI) Scores

- KJU’s IC is toward the lower portion of the general range of scores for political leaders across many studies. It implies rigid information processing, intolerance for competing views, dislike of open-ended or uncertain situations, and little scope for considering a variety of interacting factors.

- His very low score for Dialectical Complexity reflects a pervasive failure to recognize (or consider) dimensions, points of view, perspectives, etc., that are outside his own terms of reference and assumptions.

- His MI profile shows that his highest motivational priority is need for Power. This is different from many high-level leaders, who tend to be high in need for Achievement, KJU’s second-highest motive. The very low level of need for Affiliation is customary among national leadership figures.

- Taken together, the IC and MI data show a person with a strong motive to control and manipulate others, to defend his own views and plans without flexibly adjusting them to changing circumstances, to make categorical, black-or-white judgments, and to favor definite and unchanging decisions.

- It is important to remember that IC is a structural characteristic: that is, the overt content of the individual’s text may be manipulated for impression management purposes (e.g., to appear flexible and open to compromise), but the level of the person’s IC will still show the underlying process of thought.
High nPow does NOT Predict Weapons Testing Events

- Need for power (nPow) is not associated with weapons testing events in the same quarter, $r = .05$ ($p = .85$).

- Although the relationship is not significant, lagged nPow is negatively associated with weapons testing events. For a lag of 1 quarter, $r = -.26$ ($p = .32$).

- This sign holds if we dummy weapons testing events, 0 = no tests and 1 = tests. For a lag of 1 quarter, $r = -.22$ ($p = .40$).

- **Key Take-Away:** When Kim exhibits relatively low power imagery, this is NOT associated with a reduction in weapons testing events in the subsequent quarter.
  - Increases in his need for power do not predict increases in testing, nor do decreases in his need for power predict reductions in testing
Lagging weapons testing events by one quarter, they have the following correlations with our psychological variables:

- Integrative Complexity (IC): $r = -0.47$ ($p = 0.047$)
- Need for Achievement ($nAch$): $r = -0.62$ ($p = 0.01$)
- Need for Power ($nPow$): $r = 0.51$ ($p = 0.03$)
- Need for Affiliation ($nAff$): $r = -0.24$ ($p = 0.349$, not significant)

**Key Take-Away:** When North Korea tests weapons, in the subsequent quarter Kim exhibits lower IC, i.e., black-and-white thinking; decreases in need for achievement; and increases in need for power. He appears to become more belligerent.
Discourse of Deception (NSI)

- Research on the language use of liars provides some **tentative indicators**
- Discourse of deception is a scientifically valid field, but tests have neither been methodologically sound nor adequately validated enough to be used in criminal courts in most countries
- However, basic findings are useful for police investigations to indicate leads
- Caveat: Linguistic studies of lie detection are grounded in law enforcement contexts; however, studies of lying in political discourse identify similar indicators, especially evasive tactics similar to equivocation, other pronouns, and sense words (see below).

- Liars Typically use more:
  - Words per average sentence of 10 – 15 words in English
  - More 2nd and 3rd person pronouns than 1st person pronouns
  - Equivocations (maybe, possibly, sort of)
  - Negative emotion words (horrible, awful, bad)
  - Negations (didn’t, cannot, would not)
  - Sense words (feel, hear, saw)
  - Overstatements (never, always)

- These themes were coded in KJU corpus and their densities examined for overall patterns and trends
## Kim Jong-un’s Lying Discourse Metrics

### Indicator – Statistically Prominent Patterns

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average words per sentence, corrected for translation = 29.8 at least twice expected</td>
<td>Dishonest</td>
</tr>
<tr>
<td>Other person to first-person ratio = 2.6, KJU uses far more other-person pronouns!</td>
<td>Dishonest</td>
</tr>
<tr>
<td>Negative political themes used often, along with other negative themes</td>
<td>Dishonest</td>
</tr>
<tr>
<td>Overstatements frequently used</td>
<td>Dishonest</td>
</tr>
</tbody>
</table>

KJU’s overall pattern of language use is consistent with dishonesty

### Statistically Significant Trends through Time

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average words per sentence, corrected for translation decreasing (r=−.329, p=.029)</td>
<td>Less Dishonest</td>
</tr>
<tr>
<td>Overstatements initially high 2012, decrease and recently increase (R^2=.11, p&lt;.02)</td>
<td>More Dishonest</td>
</tr>
<tr>
<td>Other indicators stable through time</td>
<td>Dishonest</td>
</tr>
</tbody>
</table>

Dishonesty metrics mixed, but overall indicate maintenance of dishonest linguistic patterns
### Summary of Discourse and Cognitive Data

<table>
<thead>
<tr>
<th>Method</th>
<th>KJU Values</th>
<th>KJU Changes in Values</th>
<th>KJU Decision Calculus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative Discourse Analysis</td>
<td>Juch’e, Songun, Ability, Autonomy, Kims, Economy and Development</td>
<td>Juch’e is decreasing, Nukes decreased and spiked in last 2018 speech</td>
<td></td>
</tr>
<tr>
<td>Empathy Checklist</td>
<td>Ability, Identity, Self-interest</td>
<td>Identity is decreasing, Status is increasing</td>
<td></td>
</tr>
<tr>
<td>Basic Emotions</td>
<td></td>
<td>Autonomy is increasing</td>
<td></td>
</tr>
<tr>
<td>Cognitive Complexity</td>
<td>2012 Songun, Ability 2018 Juch’e, Nuclear ability and deterrent</td>
<td></td>
<td>CC uniformly very low</td>
</tr>
<tr>
<td>Integrative Complexity</td>
<td></td>
<td></td>
<td>Uniformly low</td>
</tr>
<tr>
<td>Discourse of Dishonesty</td>
<td></td>
<td></td>
<td>Discourse metrics indicate dishonesty</td>
</tr>
</tbody>
</table>
Summary Empirical Findings

- **Juche philosophical framework** is the essential scaffolding upon which all values, interests and even tactics are hung
- The **military** is a keystone in this framework
- **Nuclear capability is considered a necessary element** for DPRK and therefore regime security; also a major point of **national pride**
- Recent spike in his mention of nuclear weapons, decreases his emphasis on religious concepts and Juch’è
- **China never mentioned** in any substantive way; **foreign trade barely mentioned** at all – these may not actually be important to KJU and they are **antithetical to the Juch’è principle of a independent DPRK autarky**
- KJU is moving away from emphasizing Juch’è and Identity, although still fundamental to his narrative; status is increasing in importance to him
- Both methods for assessing the complexity of his decision calculus provide the same result – his **cognitive complexity is uniformly low throughout his reign**
- When he conducts a test, his Integrative Complexity decreases and his Need for Power increases; **testing emboldens him**
- He uses linguistics patterns consistent with **dishonesty**
Summary - Implications of Results

- All issues are integrated into the Juch‘e framework
  - Different types of issues (ideological, security, economic, social) cannot be simply separated as bargaining chips
  - KJU must save face with respect to the Juche framework, until he changes that framework
- KJU is moving away from some elements of the framework (Identity, Juche), but they are still central
- Movement away from Juch‘e may indicate increased aggression, but ironically increased mention of nuclear weapons may indicate decreased likelihood of further testing (see analysis quantitative discourse analysis below)
- China and Foreign trade are not apparent concerns of his
  - Offering these as negotiating points may be distractions and non-starters
- If he is shifting his frame of reference, it is telling that his cognitive complexity remains at a very low level – he really only considers his own perspective and lacks grasp of the relevance of others’ perspectives
- He exhibits increased belligerence after he tests his nuclear and missile capabilities
- Don’t trust his statements