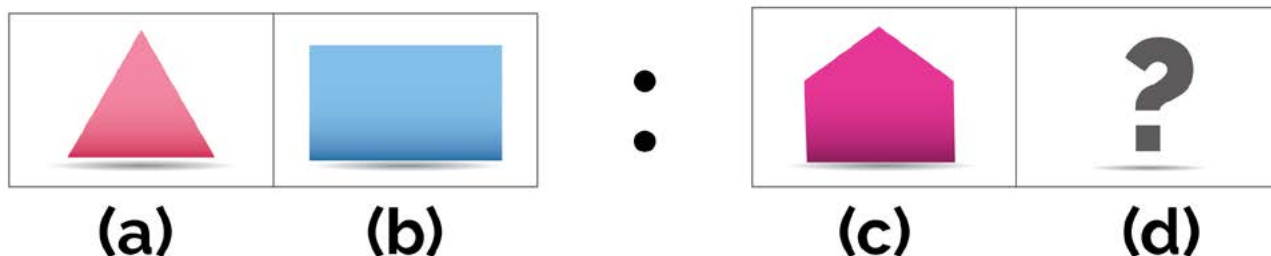


PROBLEM FIGURES



ANSWER FIGURES



Humans have evolved an exceptional cognitive ability to prioritize structural relationships over surface-level features. Analogical thinking, the basis of human intelligence and creativity, allows people to map complex patterns from a known scenario to a new, unfamiliar scenario. (The solution to this example of a nonverbal analogy test is on the following page.)

Analogical Reasoning in Intelligence Analysis

Desk-side Evaluation Methods

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Analogical reasoning is a pervasive heuristic tool we use to make sense of complex and ambiguous situations, reduce uncertainty, and aid decisionmaking. In the Intelligence Community, analysts often use analogical reasoning to make inferences, explain situations and their implications for US interests, or probe for clues to the

future. Selecting analogies that best explain a current scenario—the issue under examination—is essential for supporting national security customers and maintaining analytic credibility. Yet experience tells us this selection process is fraught. In this article, I offer a method to improve it.

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Although humans use analogical reasoning daily, we can still use it improperly and fall into cognitive traps.^a A common pitfall is vividness bias. It occurs when an observer is disproportionately influenced by information that is vivid, most readily accessible, or emotionally charged, even if the information in question is less credible. The focus on a vivid past situation may exclude other potentially stronger ones that would provide better insights for analysts and decisionmakers alike. The late CIA methodologist Richards Heuer noted:

Frequently ... a historical precedent may be so vivid and powerful that it imposes itself upon a person's thinking from the outset, conditioning them to perceive the present primarily in terms of its similarity to the past.¹

Research indicates even highly experienced decisionmakers use analogical reasoning poorly, resulting in weak or fallacious arguments.² Further, Yuen Foong Khong's study on US decisionmakers' use of analogical reasoning suggests vividness and other biases are pervasive in the decisionmaking realm.³ After North Korea's invasion of South Korea in June 1950, President Truman turned to events in the run-up to World War II to frame the situation and

understand Washington's predicament. He viewed Japan's invasion of Manchuria (1931), Italy's invasion of Ethiopia (1935), and Hitler's annexation of Austria (1938) as analogues demonstrating that inaction in the face of aggression resulted in broader catastrophe, while leaving out other less vivid but credible precedents.⁴

As US involvement in Vietnam increased in the mid-1960s, the Korean War itself became a vivid but faulty analogy for President Johnson and several of his advisors. Khong reveals the extent to which the Johnson administration used Korea as a guiding precedent:

[The] Korean analogy was used in private to define the nature of the problem in Vietnam, to assess the stakes of the problem, to prescribe possible responses, and to indicate the morality of those prescriptions.⁵

We can draw upon case studies and refine methods identified by academics to mitigate bias and other pitfalls that create defective analogies. In this article, I discuss some methods and offer a new one for consideration.

Identifying Fundamentals

Identifying the fundamental elements or issues of a current scenario is an important first step for establishing parameters. This helps us to avoid wasting time on irrelevant information or superficial commonalities that lead to poor analogical reasoning. William Flanik illuminates this pitfall in his study of the use of analogies and metaphors in foreign policymaking:

The main pitfall of comparative reasoning is that surface-level similarities between target and source domains often overshadow more fundamental differences.⁶

Neustadt and May propose that we should first group elements into "Known," "Unclear," and "Presumed" buckets to establish our understanding of an issue. This focuses our minds on evidence and presumptions, helping to understand the information base, what is truly relevant, and any associated uncertainties. This step should improve the framing of analogical reasoning and subsequent steps by distilling the issues, reducing the potential for anchoring on misleading surface-level similarities.⁷

The Neustadt-May method should also help fix a scenario in time to prevent the creation of

a. The solution to the puzzle on the preceding page is answer 4: a triangle (three sides) is to a rectangle (four sides) as a pentagon (five sides) is to a hexagon (six sides).

overly broad or general analogies. Many intelligence questions are complex and protracted issues that may drive analysts to rely on hazardous mental shortcuts, increasing an analyst's susceptibility to cognitive traps. Individuals may focus on a less relevant point of time or the wrong driver in the base scenario, leading to faulty conclusions and time-wasting miscommunication. A correspondent for the *Economist* highlights this framing problem by invoking their effort to understand a new development within a major foreign policy issue that involves many actors and vivid events:

When America started bombing the Houthis on March 15th [2025], your correspondent messaged a diplomat: Was this déjà vu or something new? The group, a Shia militia in Yemen, has been bombed so many times by so many people that the diplomat needed clarification. Déjà vu from when Joe Biden bombed them last year? From when Israel did so months later? Or from when a Saudi-led coalition began bombing almost a decade earlier?⁸

Vietnam's turbulent and complicated history probably produced a similar dynamic for the Johnson administration. In 1965, National Security Advisor McGeorge Bundy provided President Johnson a memo on the "Americanization" of the Vietnam conflict that compared the

United States' situation to France's own experience in Vietnam. Bundy sought to challenge a more credible France-Vietnam analogy championed by Undersecretary of State George Ball but anchored his own analogy on France's defeat in 1954 at Dien Bien Phu and the subsequent withdrawal of French forces. This revealed limited similarities to the US position in 1965, when Washington was much less militarily committed in Vietnam.⁹ Ball, on the other hand, looked to 1950–51 to invoke France's own pained decisionmaking for increasing force levels and the initially higher levels of French public support for war. Ball's framing enabled him to anticipate some of the critical challenges the United States would face.¹⁰

Similarities-Differences Analysis

Similarities-Differences analysis can help us further evaluate and eliminate presumed analogues. This technique provides a quick, economical structure for testing the strength of prospective analogies. Users list known critical elements to identify and weigh the similarities and differences between the current situation and past scenario, revealing the appropriateness of the past event for providing potential insights into the future. Users need only to create a table with paper, whiteboard, or software applications (e.g., Word, PowerPoint).

To illustrate this method (Figure 1, next page), I replicate some elements from a 1964 memo Ball sent to Johnson and other senior officials questioning the suitability of the Korean War analogy for debating greater US military involvement in Vietnam.¹¹ These scenarios occupy the first and second columns; the third is for evaluating the suitability of the elements and assigning a value: weak, moderate, strong, or not analogous or possibly ambiguous/unclear. (Analysts should use other terms that make sense given the nature of the assembled information).

The conspicuous lack of critical analogous elements should rule out the use of the Korean War as an instructive analogue for considering US commitments to Vietnam. The salient differences—as captured by Ball—indicate the burden could be higher for the US than it was in Korea, demonstrating that similarities-differences analyses can provide valuable insights even when they fail to validate scenarios as having credible analogous attributes.

Reflection-Mapping: A New Approach

I offer this method (Figure 2, page 31) for evaluating the suitability of proposed analogues and for extracting maximum insights from the analogues under examination. I call it "reflection-mapping" because the method compares two

Analogical Reasoning in Intelligence Analysis

Korea 1950	Vietnam 1964	Qualification Explicit or Implicit
Political Legitimacy: US involvement under clear UN mandate, conferring clear international legitimacy; Korea sought US support	Presence in South Vietnam "depends on the continuing request of the [government of South Vietnam] (and a SEATO protocol)."	Weak/Not analogous
Political Legitimacy/Host Government Stability: South Korean government stable, general support, limited factional jockeying for power	"In South [Vietnam] we face governmental chaos"	Not analogous
Allied Military Commitment: UN forces provide 53,000 (non-US and non-South Korean) personnel	In Vietnam we are "alone with no substantial help from any other country"	Not analogous
Resolve: Korea had been independent for two years before North Korea invaded the South; South Koreans fighting	People of Vietnam have been fighting for almost 20 years; "all evidence points to the fact they are tired of conflict"	Not analogous Perceived war fatigue suggests US may shoulder greater combat/military burden
War Context: The North invaded—crossing a sovereign border with 100,000 troops—resulting in UN support for intervention on behalf of South Korea	There has been no invasion, "only slow infiltration"; Viet Cong has strong indigenous support; that Hanoi is directing Viet Cong operations is not so clear to outside world	Not analogous Vietnam conflict is far more ambiguous; Viet Cong and weakness of Saigon may incline observers to perceive conflict as an "internal rebellion"

Figure 1. Analogical elements derived from a memo written by Undersecretary of State George Ball in 1964. Adapted from Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965* (Princeton University Press, 1992).

scenarios by organizing critical information across a horizontal meridian.

Reflection-mapping builds on similarities-differences analysis by providing space for deeper comparisons of evidence, critical forces or factors while showing how these

elements interact. If anything, this technique can help analysts organize their thoughts; observers will notice this method has similarities to argument mapping and, depending on your approach, back-casting.

Technology or Capabilities Development

Reflection-mapping can help us understand the implications of emerging technologies or capabilities, including their significance in other fields, domains, or scenarios. Analysts can use it to

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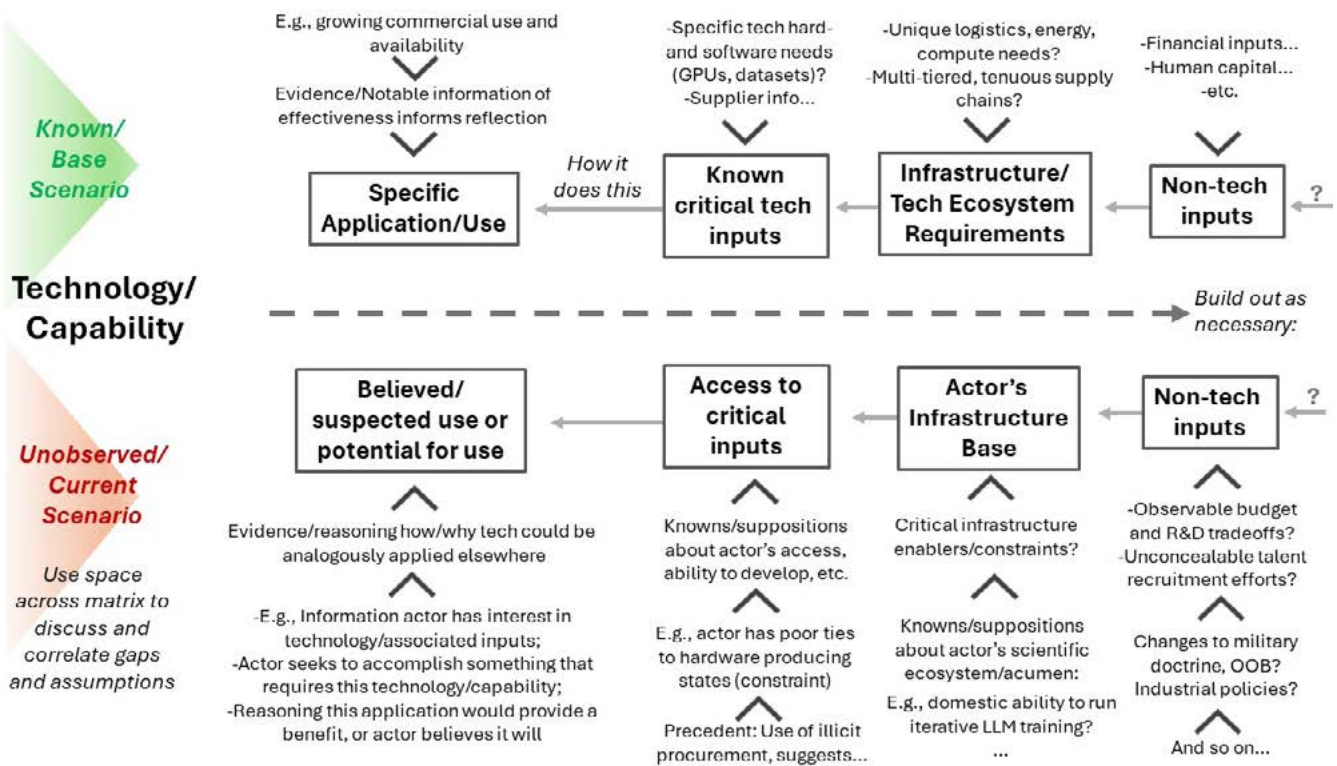


Figure 2, Reflection Mapping template for technology or capability: Integrate the Neustadt-May methods across the map to vet your suspected analogy, hone your reasoning, and identify potential indicators and opportunities for US action.

identify processes, inputs, skill-sets, and chokepoints that may affect an actor's ability to develop a specific capability. Reflection-mapping may also help practitioners identify, develop, or refine indicators for warning.

To start, place the meridian higher on the medium (paper, PowerPoint, etc.) to provide more space for the Unobserved/Undetected section, the target domain (current scenario). This creates space to discuss reasoning and the fragmentary evidence, gaps, and assumptions. Above the meridian, identify the base technology or capability (base scenario); clearly describe its function and demonstrated use. Then identify the underlying technology enablers.

Use the space radiating out from the meridian to organize and explore evidence, inferences, critical assumptions, and intelligence gaps that affect these other elements of analysis. The meridian can be expanded to the right to accommodate sub-elements, factors or forces relevant to the technology in question or any actors pursuing it.

In the following demonstration (Figure 3, next page), I use reflection-mapping to glean insights into a fictitious country's ability to use computer vision for specific military ends. Computer vision has broad applications, but it is used by some countries to monitor individuals in the name of public safety. This application is our base scenario (also known as source domain). For the

sake of demonstration, I posit the current scenario is an undemonstrated or unobserved application of computer vision to the military domain. I use analogue reasoning to assess computer vision's ability to improve offensive targeting because I suspect the underlying technology function—identifying and distinguishing objects—has transferable attributes to the military domain.

My map is bounded by the finite space provided in this article, but there is nothing to keep analysts from building more expansive maps.

As I will demonstrate, reflection-mapping can refine our thinking and assessments by helping to identify the breadth of the requisite input, supporting technologies,

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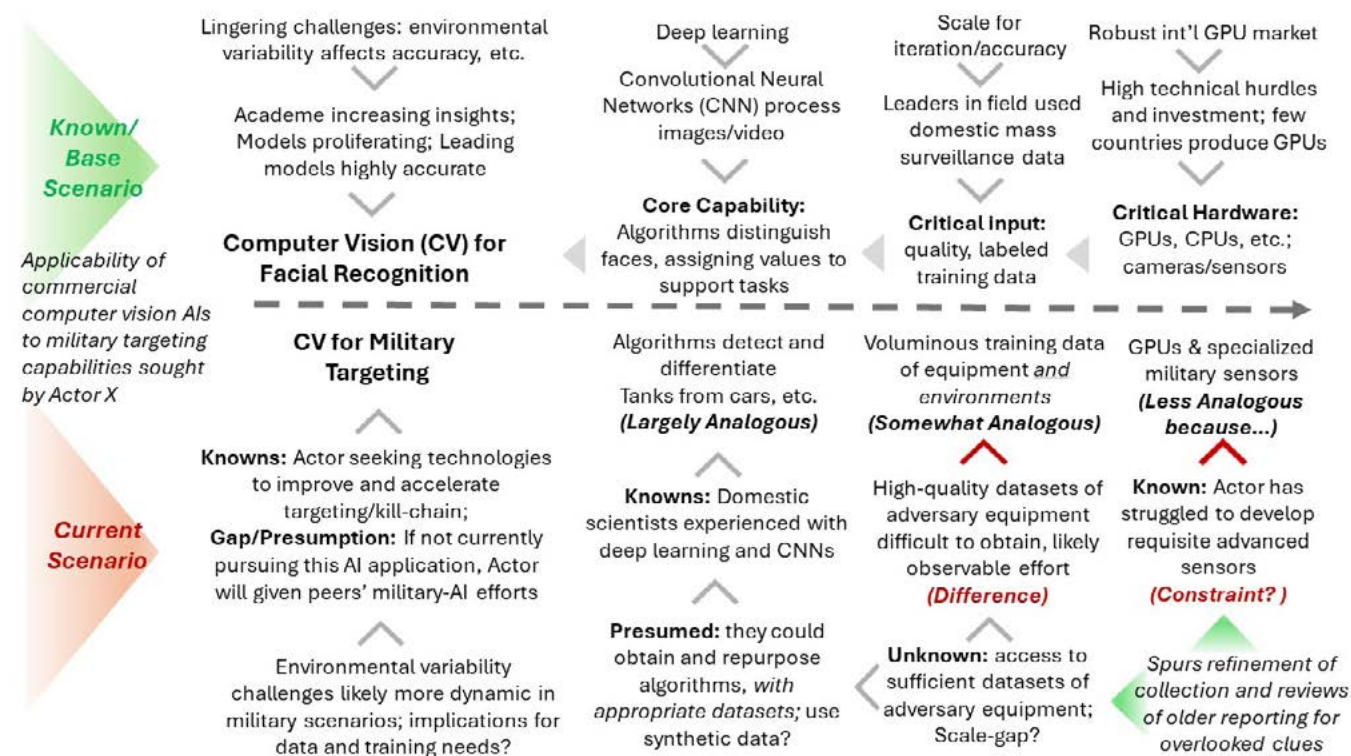


Figure 3, Technology Example for Actor X: Our map helped us to understand the strengths and limits of the analogy and the challenges the actor may face in pursuing this technology. The method can support actor-agnostic analogy vetting depending on the framing of the intelligence question.

processes, and skill-sets—factors we may easily overlook. The technique can support exploratory analysis in other areas, like the potential for nefarious actors to use AI intended for drug discovery and synthesis for developing novel narcotics or deadly toxins. What does researchers' work say about operational milestones and computing power requirements? This information may help contextualize any observed activity or fragmentary information in evidence bullets.

As analysts map scenarios, this method may also help them consider alternative explanations for ambiguous reporting, the significance of individual elements, or

biases or analytic leaps: are those aluminum tubes for centrifuges or an Italian rocket system the Iraqi military wanted to reproduce?¹²

Historical Analogues

Reflection-mapping can help anticipate the potential trajectory or implications of complex issues such as unexpected conflicts or the decisionmaking of foreign actors. For example, it could help one probe whether an actor might use an unscheduled military exercise as cover to invade a neighbor or a cartel's recent actions can be explained by those of other cartels, illuminating future developments

and their implications for US interests. Depending on how one frames the intelligence question and map, they can reveal forces at work and patterns that can aid warning and generate additional indicators.

The mapping structure for these scenarios largely resembles Figure 3, except our base scenario (located above the meridian) is a past event and we organize themes like analysis, collection/knowns, and other analytic elements and other trade-craft processes.

For this demonstration (Figure 4, above), we've generated a fictitious crisis for our current scenario: the autocratic monarch of Eastland

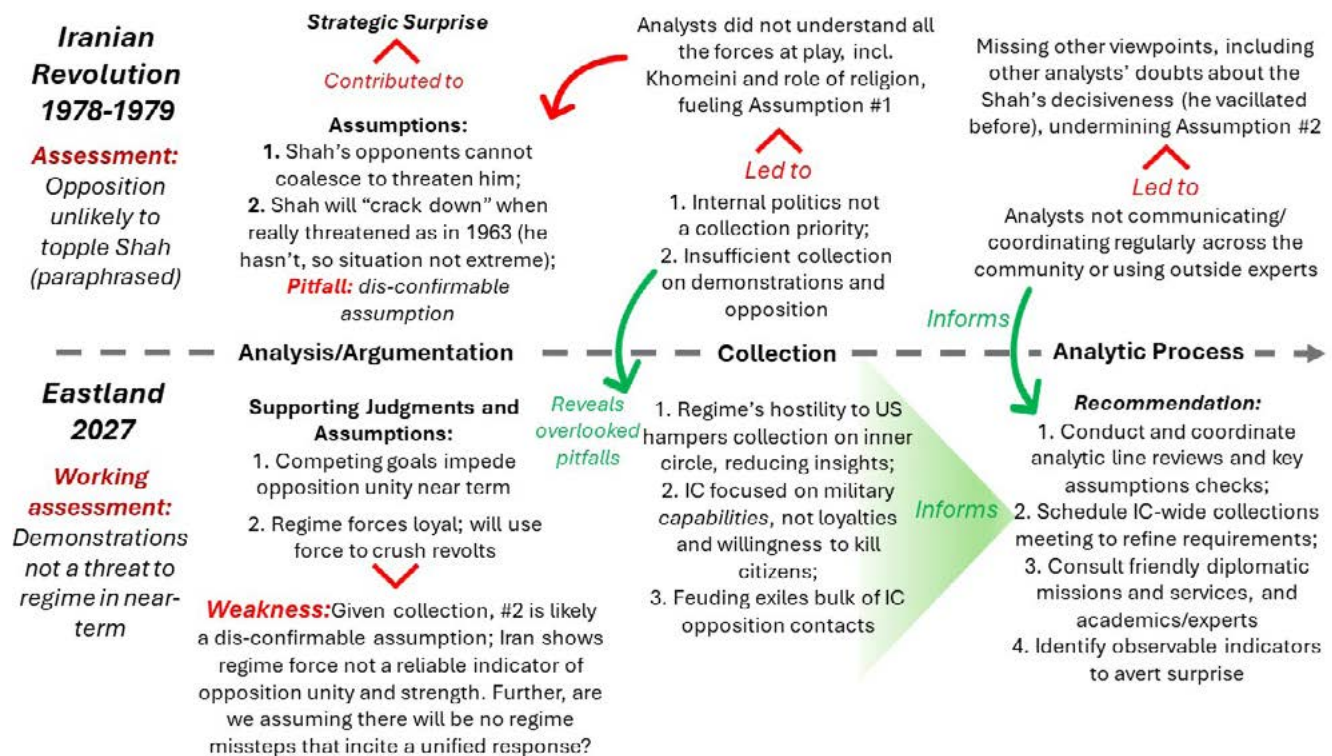


Figure 4. The use of intelligence case studies as potential analogies enables us to perform a form of pre-production diagnostic analytic line review, providing insights for avoiding analytic traps and potentially strategic surprise.

is facing growing popular opposition but is firmly in control of his security forces. Several vivid similarities lead us to recall the Iranian Revolution as a potential analogue that could reveal important insights into Eastlandic internal dynamics and our own analytic process, reducing the potential for strategic surprise. For example, are we repeating the errors of past Iran analysts by relying on unconfirmable assumptions about the monarch's willingness to crush his opposition when seriously threatened?¹³ Are we mistakenly relying on regime reactions to draw conclusions about the opposition's strength?¹⁴

This process may help analysts determine the existence of commonalities relevant to the reader's needs for digestible context and warning. For our fictitious current scenario, it could look like this:

The religious opposition is increasingly invoking nationalist narratives to challenge the Eastlandic regime, a development likely to draw strength from competing secular opposition groups. During the Iranian Revolution, Ayatollah Khomeini invoked nationalist narratives to gain support from the Shah's secular opponents and increase pressure

on the monarch, a dynamic that was underestimated at the time.

The implication and policy prescription are such: as in Iran in 1979, things could unravel quickly; pay closer attention to the opposition.

This example shows how this form of mapping may produce more insightful analogical reasoning that aids processes like important reappraisals of collection strategies or assumptions based on other analogies. According to a study conducted by the late academic Robert Jervis for the CIA, some analysts believed the

Shah would “crack down” on the opposition when seriously threatened because he had in 1963, though there was some evidence that he may have been hesitant to use massive force; this assumption could be instructive to Eastland analysts. Analysts also may have overestimated the sufficiency of the US government’s information base, reducing the impetus to alter collection. Reflection

mapping-style processes can help expose what Jervis described as hazardous “circularity” wherein collection on an issue is poor because analysts believe a situation is stable.¹⁵

Conclusion

Flanik writes “analogies seem most prevalent and influential in security decision making,”

suggesting intelligence analysts have an even greater obligation to use analogical reasoning carefully and to consider diverse methods for developing credible analogies.¹⁶ Members of the Intelligence Community and the curious public will undoubtedly develop better and more user-friendly techniques that can benefit our craft. I hope this article inspires further debate. ■

Endnotes

1. Richards J. Heuer, *Psychology of Intelligence Analysis* (Center for the Study of Intelligence, CIA, 1999), 38.
2. Sjoerd Keulen, “Historical Analogies: Functions, Limitations and the Correct Use of Historical Analogies in Applied History,” *Journal of Applied History* 5(2) (2023): 111–31. See also Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965* (Princeton University Press, 1992), 13.
3. Khong, *Analogies at War*.
4. Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (Free Press, 1986), 34–36.
5. Khong, *Analogies at War*, 117.
6. William M. Flanik, “Analogies and Metaphors and Foreign Policy Decision-making,” in T. Cameron G. (Ed.), *The Oxford Encyclopedia of Foreign Policy Analysis* (1 ed., Vol. 1 of 2,) (Oxford University Press, 2018), 128.
7. Neustadt and May, *Thinking in Time*, 89–90.
8. *Economist*, “Many bombs, little thought,” April 5, 2025, 35.
9. Neustadt and May, *Thinking in Time*, 81–85, and Khong, *Analogies at War*, 154–55.
10. Khong, pages 104–110, 150–153.
11. “How Valid Are the Assumptions Underlying our Vietnam Policies?” See Khong, 106–11.
12. Robert Jervis, *Why Intelligence Fails: Lessons from the Iranian Revolution and the Iraq War* (Cornell University Press, 2010), 127–28, 142–43, 213.
13. Jervis, *Why Intelligence Fails*, 69–71.
14. Jervis, *Why Intelligence Fails*, Chapter 2.
15. Jervis, *Why Intelligence Fails*, 4, 17–18, 41–42, 69–75.
16. Flanik, “Analogies and Metaphors and Foreign Policy Decision-making,” 8. ■