INTELLIGENCE PROJECT

Challenging Biases and Assumptions in Analysis

Could Israel Have Averted Intelligence Failure?

Beth Sanner
Adam Siegel

HARVARD Kennedy School
BELFER CENTER

50 YEARS
OF RESEARCH, POLICY, AND LEADERSHIP

REPORT
APRIL 2024

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About the Intelligence Project

The Intelligence Project seeks to build a new generation of intelligence practitioners prepared to serve in a rapidly changing world and to help future policymakers and intelligence consumers understand how best to interact with intelligence to gain a decision advantage. Building on multi-disciplinary research being conducted at the Belfer Center, from history to human rights and cyber technologies, the Intelligence Project links intelligence agencies with Belfer researchers, Faculty, and Kennedy School students, to enrich their education and impact public policy.

About the Authors

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Adam Siegel is the CEO and Co-Founder of Chicago-based Cultivate Labs and a pioneer in applying collective intelligence and crowdsourcing solutions for governments, businesses, and non-governmental organizations. Founded in 2014, Cultivate helps organizations make better strategic, operational, and policy decisions by crowdsourcing employee or externally-based large, diverse groups of human and AI-supported forecasts about risks, critical events, and milestones. Its technology platform and professional services are used by national security-related government agencies in the U.S. and Europe, biopharmaceutical companies, investment banks, and large research institutions. Siegel also founded venture-backed (Y Combinator) Inkling Markets in 2006, which introduced the internal use of prediction markets to companies. Before becoming an entrepreneur, Siegel spent a decade as a technology consultant at Accenture where he led a research initiative on next-generation user interfaces and client engagements across multiple industries.

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A battle-scarred home in Kibbutz Be'eri, an Israeli communal farm on the Gaza border, is seen Thursday, Jan. 11, 2024. (AP Photo/Tsafrir Abayov)

Introduction

The human tragedy continuing to unfold in Gaza and Israel reminds us how important it is to get strategic forecasting right. While in no way excusing Hamas' culpability for 7 October, we also cannot dismiss the fact that the failure to anticipate and prepare for such an attack has had grave consequences for communities on both sides of this conflict, undermined efforts to bring peace and prosperity to the region, and affected global interests through the expansion of the conflict to the Red Sea and potentially beyond.

This example is certainly not the first such failure, and sadly, it will not be the last. The Tet Offensive, the misidentification of a weapons of mass destruction program in Iraq, and 9-11 are among U.S. failures that had similarly grave consequences. There are hundreds of examples, big and small, that have vexed intelligence communities around the world. Each is unique, but most come down to human, social, and cultural shortcomings.

Strategic surprises, like the crisis unfolding in Gaza, do offer critical opportunities for learning, however, and our paper explores how an alternative approach might have helped avoid several critical gaps that contributed to the intelligence failure. We add this caveat: Israel has yet to conduct a full investigation of the intelligence failure surrounding 7 October; readers should note that some of the reports and accounts used in this paper may prove to be inaccurate or only part of a fuller story.

We begin by highlighting how difficult it is for analysts and policymakers to challenge their frameworks and models of the world through rigorous review and revision. Drilling down more specifically on the real-world strategic surprise of 7 October, we identify how broadly held assumptions about Hamas' capabilities and intentions drove senior Israeli leaders to discount or dismiss actual signals and warnings of a potential attack. We close with a counterfactual exercise to consider how an approach using a forecasting method called crowdsourced strategic forecasting might have helped Israel avoid those particular errors with the goal of providing methods to help guard against future strategic surprise.

Crowdsourced strategic forecasting is the process of soliciting ongoing, quantitative forecasts (e.g. probabilities) and qualitative rationales about the likelihood of future events and risks from a large, organizationally and demographically diverse group

of people, and then aggregating them into a "crowd" forecast. The outputs of this process can help analysts and decision makers by prompting them to consider multiple scenarios that challenge their assumptions, craft trackable forecast questions that will inform the likelihood of alternative scenarios, identify areas of consensus and disagreements among different organizations and cohorts, flag minority views and "weak signals," and provide feedback by measuring the accuracy of individual and collective forecasts.

It's The Thinking

Strategic surprises remind us that we all navigate our world and tasks based on paradigms or conceptual frameworks. These paradigms are essentially built on a set of assumptions, concepts, and values[1] informed and influenced by our observations, the views of others, and long-held organizational and cultural truisms and biases. Such models create the stories and narratives that some refer to as "mental maps." These help us make sense of what we are seeing and guide our thinking about what to expect, whether we are aware of them or not.

Intelligence analysts engage in this same process. What sets them apart is their subject-matter expertise leavened by access to secret information plus rigorous application of analytic processes designed to mitigate gaps in information and biases. Expertise is essential, but "the paradox of expertise" has proven time and again that experts are also more likely to fail to anticipate major change than non-experts.[2] This is why intelligence analysts are trained to question assumptions, devise alternative scenarios, and identify the drivers or factors expected to fuel outcomes.

In most cases of intelligence failure, several factors combined to create blind spots for analysts, collectors, and the receivers of analysis. These include biases, unidentified or unquestioned assumptions and factors, intelligence gaps and biased collection, minority views that were not heard or were dismissed, warnings that were not communicated clearly or in a compelling manner, and the disbelief or distraction of senior leaders.

Given these challenges, rigorous analytic processes are required to recognize when the mental maps that provide the scaffolding for analytic conclusions are flawed, most often because of incorrect, outdated, or hidden assumptions. But that alone is not enough. Processes must be embedded in a culture where minds are open to outside views and minority voices that challenge conventional wisdom. Finally, warnings, including dissents and trendlines, must be conveyed in a way that decision makers can evaluate and digest.

Warnings Unheeded

Israel's failure on 7 October is just the latest example of experts and decision makers relying on a mental map that rested on flawed assumptions, in this case about Hamas' intentions and capabilities. As *The New York Times* reported, "Israeli security and military agencies produced repeated assessments that Hamas was neither interested in nor capable of launching a massive invasion."[3] So anchored were these two assumptions in Israel's intelligence, military, and political hierarchy that a countervailing scenario was unimaginable and, with the help of cognitive dissonance, evidence to the contrary was explained away.

Not everyone was fooled. Most strikingly, those not burdened by flawed assumptions and misguided analyses saw Hamas activities for what they were. The most junior of soldiers known in Hebrew as tatzpitaniyot – meaning lookout, or more colloquially, "spotters," – raised the alarm, not once but many times, over many months, according to press accounts. "These included reports about Hamas' preparations near the border fence, about its drone activity in recent months, about promos for its plan to completely remove the cameras from operation, about the widespread use of trucks and motorcycles, and also about rehearsals for attacks on tanks," according to reporting from Israeli newspaper *Haaretz*.[4]

The spotters – all female conscripts by tradition – who survived 7 October claim that arrogance and chauvinism prevented senior officers in the IDF Gaza Division and Southern Command from heeding their warnings. Was hierarchy and gender bias at least partly to blame?[5] One of only two spotters not killed or abducted while on duty at the Nahal Oz base said, "It's infuriating. We saw what was happening, we told them about it, and we were the ones who were murdered."[6]

There was other evidence that should have led analysts and leadership to question assumptions about Hamas' intent and capabilities. Israeli security services obtained a 40-page Hamas blueprint for the 7 October attack, code-named "Jericho Wall," more than a year before. At that time, it was dismissed as beyond Hamas' capabilities.[7] Analysts had fallen into the trap of confirmation bias; after all, they had been correct that Hamas would not or could not implement such a plan since at least 2016, when they had obtained a similar Hamas attack plan.

As intelligence from the spotters and perhaps other sources revealed what we now know were Hamas' final preparations for the 7 October attack, some started to question their mental map.[8] Three months before the attack, a veteran analyst in the IDF Gaza Division connected the dots. She warned that a day-long Hamas training exercise mirrored the Jericho Wall plan, including exercises to simulate shooting down Israeli airplanes, occupying a kibbutz, and overrunning a military base.[9] Her chain of command, however, remained anchored in their flawed assumptions about Hamas, dismissing the threat as imaginary. According to The Jerusalem Post, the analyst persisted, "It is a plan designed to start a war…It's not just a raid on a village." Her colleagues lined up to support the analyst's assessment. One wrote this warning, "We already underwent a similar experience 50 years ago on the southern front in connection with a scenario that seemed imaginary, and history may repeat itself if we are not careful."[10]

There were certainly large pieces of the puzzle missing – for example a true picture of Hamas' capacity to successfully carry out an attack and defend against an Israel counterattack, as well as direct intelligence about the intentions of Hamas' leaders. But there was enough in the way of intelligence collection, warnings, and clear parallels to Israel's intelligence failure in 1973 that should have raised alarms for senior leaders. Why did it not?

Failure to Understand the Enemy

Determining leadership intentions is one of the most difficult challenges assigned to intelligence analysts. For example, it would be highly unusual to overhear a leader instructing a trusted lieutenant to carry out an attack plan. As a result, analysts must assess a leader's intentions based on their statements, behavior, historical actions, and observed activities. This evidence is layered onto the analysts' established mental maps. Biases will push analysts to give more weight to evidence that reinforces the map and to downplay or dismiss evidence that lies in contravention.

Multiple factors contributed to the year's-long cognitive dissonance that explained away evidence that Hamas intended to carry out its founding goal–the destruction of Israel–and was building capabilities to carry out attacks to advance this goal. But at its core, Israelis simply failed to understand Hamas.

Israelis believed in their mirror-image of Hamas' ambitions to govern rather than to destroy, seeing these two as mutually exclusive. "The basic concept was that if you improved the economic and civil situation in Gaza, you would create achievements that Hamas could lose, and you would also deter Hamas from promoting escalation…It was a very, I would call it, western-style way of thinking, that you could control this tiger, and…create a poodle," said Michael Mishtein, a former Israeli military intelligence officer and head of the Palestinian Studies Forum at Tel Aviv University.[11] Mishtein sums up, "The narrative [had] become entrenched in the upper echelons of Israeli politics and was subscribed to by top military and intelligence chiefs…But it was all wishful thinking."[12]

The Hamas leadership understood Israelis better than the Israelis understood Hamas. Hamas' undisputed head in Gaza, Yahya Sinwar, devoted his 22 years in Israeli jails to studying his enemy, according to one of his interrogators, learning fluent Hebrew and immersing himself in the Israeli press. Sinwar came to know what Israelis believed and what they wanted to believe.[13] This gave him the knowledge to successfully employ a classic denial and deception campaign: creating and reinforcing the narrative that Hamas did not want to launch an attack. "Al-Sinwar created an illusion that Hamas… was transitioning from violence to stability and governance," as one Egyptian journalist put it.[14] Hamas

didn't conduct any significant attacks in the year leading up to 7 October, declining to join the smaller Gaza terrorist group, the Palestinian Islamic Jihad, in its rocket attacks on Israel; 2023 was the calmest year since 2000.[15]

"The impact was tangible," the Egyptian journalist notes, "Israel, perceiving a reduced threat, significantly scaled back its monitoring of the Gaza border, relying heavily on electronic sensors. Analysts, diverted by the perceived shift in Hamas's approach, redirected their attention to Iran and Syria, leaving the border exposed."[16] So confident was Hamas in their deception, they trained for 7 October largely out in the open.

Also out in the open were other signs that Sinwar remained a terrorist at heart, as his Israeli interrogators reported before his prison release in 2011.[17] In 2022, Sinwar publicly called for Palestinians to carry out lone wolf attacks with cleavers, axes, and knives.[18] And Sinwar's overarching goal was written in black and white in a 2019 book financed by Qatar and published by Sinwar's Hamas Culture Ministry: "...war will break out soon and one of its outcomes will be that Gaza will triumph and its fighters will take over the Gaza border area and Ashkelon*… as a prelude to their conquest of Jerusalem and liberation of Palestine from the Zionists, [these] are the realization of a prophecy by Muhammad."

A Different Approach: Using Forecasting Processes to Increase the Rigor of Analysis

We believe the flawed assumptions and unheeded warnings that contributed to the latest Gaza crisis underscore the value of a more systematic organizational approach to addressing strategic questions that includes three key elements: 1) harnessing the power of "decomposition" - a technique that seeks to continuously identify all possible scenarios and the drivers that will influence which scenario will ultimately unfold; 2) generating dynamic probabilistic forecasts about the outcome of specific signals and signposts that inform the outcome of each driver

* Ashkelon is a southern Israeli city from which Sinwar's family and its other Palestinian residents were expelled during the 1948 Arab-Israeli war. It came under a fierce Hamas rocket attack on 7 October.

from a large, diverse group of people, and 3) tracking evidence, including the forecasts, against these scenarios and drivers.

In our work supporting government national security communities and large multinational companies, our goal is always to create a virtuous cycle that both reinforces the experts' internal analytic rigor and promotes a non-threatening "challenge environment" that encourages a continuous reassessment of assumptions, drivers, and analytic conclusions prompted by the feedback loop from ongoing, anonymous crowd forecasts.

In the intelligence business, the best analysts explicitly identify the assumptions on which their narratives and analysis are based and then treat those assumptions as "living," changing them if facts on the ground change. Doing so allows analysts to quickly discard old paradigms and re-form mental maps based on changed circumstances. Richards Heuer, a CIA officer known for championing methodical, orderly thinking and the smart application of analytic methods called this process "decomposition."

Heuer wrote: *"Decomposition means breaking a problem down into its component parts. That is, indeed, the essence of analysis… Decompose a complex problem into simpler problems, get one's thinking straight in these simpler problems, paste these analyses together with a logical glue...With the key elements of a problem written down in some abbreviated form…Variables may be given more weight or deleted, causal relationships reconceptualized, or conceptual categories redefined. Such thoughts may arise spontaneously, but they are more likely to occur when an analyst looks at each element, one by one, and asks questions designed to encourage and facilitate consideration of alternative interpretations."*[19]

For crowdsourced strategic forecasting, we have developed an approach to decompose strategic issues of interest designed to push analysts to consider and write down alternative scenarios and their underlying assumptions and drivers. As a result, the decomposition process creates a holistic understanding of an entire strategic issue of interest. This process can underpin a comprehensive collection plan and create a rigorously derived framework for analysts to systematically track drivers and factors as they evolve over time.

Now imagine pairing decomposition with an online forecasting platform that synthesizes the wisdom of an internal and/or external community of hundreds or thousands of people incentivized to make probabilistic forecasts that inform the trajectory of the drivers you have identified. Some may question the credibility of an external online group - after all they may not be trained analysts or have deep expertise in a particular domain. But research has shown[20] these groups are quite accurate and insightful, and they improve over time by employing some of the exact same techniques that the best intelligence analysts have learned. In fact, one "superforecaster" explicitly referred to developing and re-forming mental maps as a key to success, "[you develop] a better model of the world ... you start to see patterns in how the world works, and then that makes you better at forecasting."[21]

This recent innovation employed by forecasting programs like RAND Corporation's INFER generates the next phase in the virtuous cycle: real-time forecast trends and insights that enable expert analysts to consider the validity of existing hypotheses, assess qualitative rationales accompanying forecasts, evaluate resulting probability distributions, flag disagreements or weak signals, and surface contrarian thinking unburdened by bias-driven conventional wisdom. Here's how the overall process works:

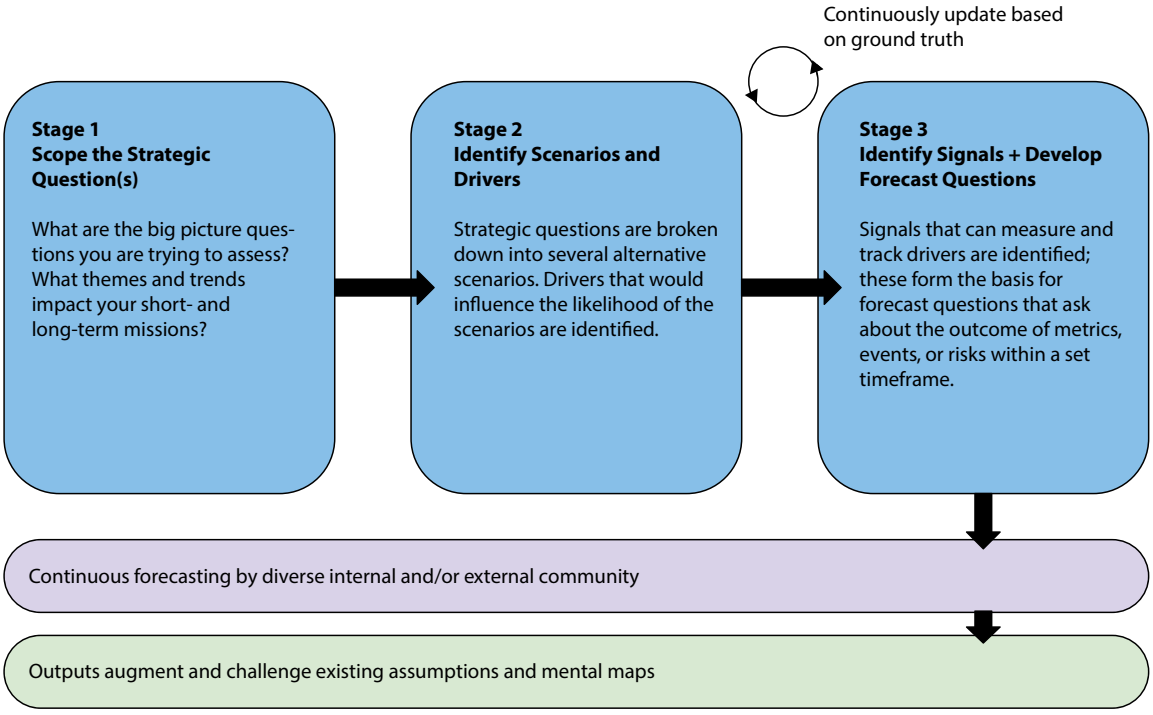

Figure 1: Cultivate Labs' decomposition and crowdsourced strategic forecasting process

Stage 1: Scoping the Strategic Question(s)

In stage 1 of our process, we work with analysts to develop overarching strategic questions. These should be big picture questions that encompass a broad issue facing decision makers.

Stage 2: Identifying Scenarios and Drivers

After establishing a shared understanding of the strategic question(s), in stage 2, analysts are asked to identify possible outcomes or scenarios for their strategic question and the drivers that influence which of those competing scenarios are most likely to come to fruition.

Unlike typical scenario planning, which may take place annually or even less frequently, our decomposition process is intended to be "living." The emerging analytic framework is easily revisited and modified based on the evolution of events on the ground and/or changes to related forecasts. Entirely new scenarios may be introduced over time or, more typically, drivers may be added or removed.

Stage 3: Identifying Signals and Developing Forecast Questions

In our 3rd stage, we identify individual signals that should be tracked over time, and these are transformed into forecast questions. Metrics, events, risks, or other forecastable outcomes that can be measured definitively are trackable signals. Like the rest of the analytic framework created through decomposition, these signals should be regularly reviewed and updated to reflect the latest ground truth. Not all signals may be appropriate or possible for human forecasters to track; some may be more appropriate for automated tracking or other sources of information. However, the process of creating a list of signals can be used to cross-check other collection efforts and form the basis for a comprehensive collection plan that ensures all relevant signals are being rigorously tracked and evaluated by analysts alongside forecasts.

ORIGINS OF CROWDSOURCED FORECASTING AND WHAT WE HAVE LEARNED

Crowdsourced forecasting, a concept that has been conceptually known for decades, gained widespread recognition and application following pivotal research by the U.S. Intelligence Community. This approach has been acclaimed by experts and scholars as an effective analytical method, providing precise outcomes by mitigating the cognitive and organizational obstacles inherent in intelligence analysis. Early studies also revealed that collective crowd predictions when combined tend to be more precise than those made by individuals.

The crowd forecasting tournaments, upon which this research was built, posed narrow, falsifiable questions to forecasters. (e.g., "Will the price of oil go up before date x?" or "Who will win Taiwan's presidential election?") These questions worked for research experiments because they could be resolved and evaluated for accuracy. However, they did not always provide decision makers and analysts with actionable insights to inform the strategic questions that were central to their mission.

Recognizing this limitation, Phillip Tetlock and Peter Scoblic argued that scenario planning could be used to develop "question clusters" that could answer high-level, broadly scoped questions. Additional research efforts at Georgetown's Center for Security and Emerging Technology (CSET), the University of Maryland's Applied Research Laboratory for Intelligence and Security (ARLIS), and now the RAND Corporation put this approach into practice, and we have since further honed the methodology on which this research was based by adding an explicit process of decomposition.

Exploring the Counterfactual: Crowdsourced Strategic Forecasting in the Israel-Hamas Context

Let's imagine how analysts might have applied this combined decomposition and crowdsourced strategic forecasting process to Israel's intelligence efforts to assess Hamas' intentions and capabilities. We will assume that this methodology was broadly in place in the Israeli national security community and that forecasters composed of Israeli military and intelligence personnel at every level of the organization were participating. What could have been different?

Israeli analysts would have already identified and scoped adversarial threats to Israel. In this vein, we would imagine they broke out separate focus areas involving Iran, Hezbollah, Syria, and Hamas. Even though the threat posed by Hamas was of relatively lower priority, in our hypothetical case, analysts would go through this process for each of the threat actors, including Hamas.

For the Hamas threat, the mainline judgment would have been stated: Hamas has neither the intent nor capability to attack Israel. Critically, analysts would then be prompted to articulate alternative views to this baseline judgment. One might imagine several strategic questions emerging, for example, "Will Hamas prioritize its governance role over its terrorist ideology?" and "Will Hamas develop military capabilities that can defeat Israel's defensive structures?"

As previously discussed, we now know a key shortcoming of the Israeli government was the failure to consider or give credence to alternative hypotheses regarding Hamas' intentions and capabilities. The decomposition process would have forced Israeli analysts to explicitly identify scenarios that ran counter to the conventional wisdom, so even "edge case" scenarios that were contrarian to entrenched assumptions would be tracked and monitored. Given that analysts also focused much more on Hamas' intentions than its capabilities, we have built the exercise with this bias in mind.

Hamas' Intentions and Capabilities

In practice, the decomposition and crowdsourced strategic forecasting process would be aligned with existing strategy or policy to optimally serve it. In this case we selected Israel's national security doctrine, which includes four main pillars: deterrence, early warning, defense, and decisive victory.[22] For pillar 1, deterrence, analysts would seek to determine whether Hamas was truly deterred from inflicting harm on Israel, as was their baseline assumption. For pillar 3, defense, analysts would try to determine whether Hamas had the military capability to overcome Israel's defenses. The forecasts, informed by and combined with traditional collection, would have contributed to early warning, pillar 2. In a best case scenario, perhaps a better understanding about Hamas' capabilities emerging from this process would enable a decisive victory, pillar 4, if the other pillars still failed.

Israeli Defense Doctrine Pillar 1: Deterrence

Boiling down the question of whether Hamas is deterred would be a natural focal point to this intelligence challenge. Given the baseline view, a reasonable scope for the strategic question would have been: "Will Hamas prioritize its governance role over its terrorist ideology?"

The possible scenarios for this question would encompass a continuum from positive to status quo to negative, for example: a) Hamas will increase its role in governance and minimize offensive military/terrorist activity by Hamas and other Gaza-based terrorist groups, b) Hamas will maintain the status quo of prioritizing its governance role over military/terror activity, and c) Hamas will prioritize its terrorist/military goals at the expense of/risk to its governance role.

Experts in facilitated sessions would have then brainstormed the drivers and signals that ultimately inform the likelihood of the scenarios. For example, drivers could include internal group dynamics, regional and international influences, Hamas relations with Israel and the Palestinian Authority, and economic and social conditions inside Gaza. Considering the regional influences driver as an example, possible signals would include the health of Hamas funding streams, the tempo and content of cooperation between and the goals of its "Axis of Resistance" partners, and the prospects for Israel's normalization with Saudi Arabia.

Once experts felt they had an exhaustive list, they would rank and prioritize these drivers and determine which signals were appropriate for forecast questions. Later analysts could cross-check collection plans for the highest priority drivers and signals and establish an analytic framework to monitor evidence resulting from crowdsourced forecasts and other collection against the scenarios.

For those signals that could be monitored using crowdsourced strategic forecasting, we would have taken the final step of creating forecast questions to pose on an online forecasting platform, one that would have been populated by a diverse population, from senior officials to the most junior from Israeli security and intelligence agencies. (Some governments have broadened their forecaster pool to other parts of their government workforce with positive outcomes. The ability to run a separate internal, potentially classified, pool and an external or public pool creates more options.) Questions related to the signals we identified in the earlier table could have included:

- What is the likelihood that Israel and Saudi Arabia will agree to normalize relations by x date?
- What is the likelihood of each Axis of Resistance member conducting a direct attack on Israel within the next 12 months that will result in at least X number of fatalities? a) Iran, b) Hezbollah, c) Hamas, d) another Palestinian extremist group, e) Iranian-backed Iraqi or Syrian militant group(s)

Israeli Defense Doctrine Pillar 3: Defense

Concerning the defense pillar, the key strategic question would revolve around whether Hamas had the capability to defeat Israel's defenses and do significant harm to Israel. Several scenarios would have been built around the potential for successful Hamas military operations, for example: rocket/missile attacks similar to previous attacks, small groups attacking via tunnels, and a full-scale ground attack as laid out in the Jericho Wall plan. This exercise would have forced the analysts to ignore Hamas' intentions and explore the full range of Hamas attack options, including a ground operation that unfolded on 7 October but had not been seriously considered.

Putting aside the wrong call about Hamas' intentions, Israel's security and intelligence services were complacent about Hamas military capabilities because in the previous decade, the IDF had succeeded in mitigating the two central threat vectors from Gaza: rocket attacks and tunnels, according to MG (Ret.) Amos Yadlin, former head of Israel's Military Intelligence Directorate. But, he notes, "Israel failed to imagine an above ground invasion." He further explains, "[Israel's failure to] reinforce defenses around Gaza in proportion to Hamas's growing military capabilities, deviat[ed] from a key lesson learned during the Yom Kippur War: organize defense according to an adversary's capabilities and not only to its assessed intentions."[23]

Below are some of the drivers that analysts would have considered to determine whether any of the three scenarios for a Hamas attack on Israel could defeat Israeli defenses, to be broken down further during the expert brainstorming.

- Weapons stockpiles and supply
- Capabilities of various weapons systems
- Military size, structure, and effectiveness of command
- Levels, types, objectives, and effectiveness of training, including trends
- Logistical capabilities
- Communications and Cyber capabilities

Signals and events would have then been used to shape forecasting questions, but also to cross-check the overall collection plan on Hamas' military capabilities and to establish an analytic framework to systematically monitor and test hypotheses about Hamas' growing capabilities. Using the defense pillar as the organizing principle, analysts would identify the parts of their defensive posture that were essential to ensure Israel's defense in each of the scenarios and their specific vulnerabilities. Fusing other intelligence to inform forecast questions would have been key to this process, particularly by asking whether key aspects of the Jerico Wall plan could succeed (without revealing the plan itself). Several forecast questions that might emerge from this exercise include:

1. Will Hamas be able to overwhelm the Iron Dome defense system in x timeframe?

2. Will Hamas build tunnels that will defeat the anti-tunnel barrier in x timeframe?

3. Will Hamas develop the ability to neutralize cameras and other sensors in x timeframe?

4. Will Hamas develop the ability to breach the fence/barriers separating Gaza from Israel in x timeframe?

Israeli Defense Doctrine Pillar 2: Early Warning

As the forecast process was run and decomposition models regularly updated, the analytic community would have had access to live dashboards and curated reports to include in analytic assessments. This information could have included trends and contrarian views, such as those coming from front-line spotters who would have been participating anonymously. A key feature of successful forecasting efforts is the anonymity of forecasters to their peers and leadership. This removes biases about the bureaucratic status of forecasters.

For our first strategic question regarding Hamas' intention to prioritize governance vs. terrorism under the deterrence pillar, we suspect that the results would not have changed the views of most analysts, particularly given the success of Hamas' denial and deception efforts. However, we also suspect that a number of forecasters would have provided some early warning about Hamas' weakening popularity, Axis of Resistance concerns about Saudi-Israeli normalization, and the growing tempo and purpose of cooperation between the Axis of Resistance groups. These weak signals may have contributed to some analysts' ability to more quickly re-form their mental maps when combined with outcomes related to the question about Hamas' military capabilities.

Decomposition and forecasting on the strategic question regarding Hamas' military capabilities had a much greater potential to shake established assumptions and provide the early warning needed to defend against 7 October. This is because the signals would have been easier to observe and measure than those driving Hamas' intent. The results also could have prompted a reconsideration of conventional wisdom about Hamas' intentions if analysts had come to understand that Hamas leaders were increasingly confident in their ability to successfully carry out an attack.

We posit that if the spotters and analysts highlighted earlier in this piece had been participants in our anonymous group of forecasters, they would have significantly increased their forecast probabilities for questions about Hamas' ability to neutralize cameras/sensors and to break through the fence, months before the attack. Anonymous input also diminishes the risk that challenging or dissenting ideas are summarily dismissed because anonymity removes knowledge of rank, position, gender, or other biases. Warning forecasts and rationales could have been generated by the most junior analyst or a 30-year veteran, increasing the likelihood that they would be taken seriously.

While such forecasts would surely have been "weak signals" from a minority of participants, our dashboard and monthly reports would have flagged these in a more timely manner and with the clarity of visualizations that show increasing likelihood and trends. These flags might have allowed the analyst and her teammates who ultimately connected the dots to question their assumptions more quickly and to boost collection. This would have been all the more likely if the analysts were using the framework developed in the original brainstorming to track and analyze evidence regarding specific Hamas capabilities.

Successfully communicating such a major shift in a threat picture also would have been crucial. History is replete with warnings that have gone unheeded. Senior U.S. policymakers didn't believe that they had been adequately warned before the September 11 attack, despite a Presidential Daily Briefing (PDB) that analysts and analytic managers believed very much provided warning. Sometimes the failure to communicate is compounded by vague and imprecise language (e.g. "a heightened threat environment"), the lack of tactical specifics regarding where and when an attack will take place, and/or leaders' disinclination to shift resources given other priorities that seem more important.

Crowdsourced strategic forecasting's focus on evolving trends, contrary to snapshots provided by one-time surveys, provides analysts a clearer and more convincing way to communicate warning. Analytics on the forecasts and the forecasters' rationales provide analysts and decision makers with directional information (Is this risk growing?) and relative information (Why is this spiking? How does this compare to the past? Is this risk more likely than another?).

COMMUNICATING WITH CLARITY

Despite the prevalence and wide use of standard language frameworks for conveying probabilistic ranges in analysis, words such as "likely" or "highly unlikely" are still ripe for misinterpretation.[24] Alternatively, crowdsourced forecasting asks its participants to always provide a numeric probabilistic judgment in response to a question. These numeric forecasts:

- Reveal and align analysts' interpretation of broad probabilistic terms like "probably" by encouraging analysts to compare their own probability with the forecasters';
- Provide an opportunity to communicate with more clarity;
- Allow for direct, granular comparison of forecasts among teams and between organizational entities and cohorts;
- Enable real-time tracking and analysis of trends, areas of consensus, and areas of agreement; and
- Create the opportunity to evaluate the accuracy of forecasts and create feedback loops for continuous learning

In our counterfactual case, based on the verbal and written warnings by the spotters and the analysts, some forecasters would have started to shift the likelihood for a breach of Israel's defensive systems from a low base, say 20%, to higher likelihoods pushing above 50% and perhaps to 85% or 95% as 7 October approached and more evidence collected on the border began to point to an imminent attack. As this increase in probability became more pronounced, analysts monitoring the forecasting activity could have incorporated the trend in analytic products, framing this information with their own explanations about why this minority of forecasters were increasing their likelihood and the analysts' own interpretation of evidence. This approach would have been more likely to shake the systemic assumptions than a sentence using vague, imprecise language.

In Conclusion: No Silver Bullets

It must be acknowledged that a decomposition and crowdsourced strategic forecasting effort cannot be introduced and effectively incorporated into a culture and bureaucracy that doesn't acknowledge and reward the imperative of systematic and rigorous tradecraft, including a willingness to consider the views of those who are not designated as experts or deciders. So the remaining and unanswerable question in our hypothetical scenario is whether anyone in decision-making authority in Israel's national security establishment would have listened and taken steps to thwart Hamas' plans.

Inevitably, every intelligence community holds deeply held biases. The only means by which to break through these is to create cultures of systematic thinking, learning, listening, and safety in challenging conventional wisdom. We discussed earlier a "virtuous cycle" that both reinforces experts' internal analytic rigor and creates a "challenge environment" that, prompted by the feedback loop from ongoing crowd forecasts, encourages analysts to continuously reassess their conclusions. We have offered this counterfactual exercise with the recognition that it comes before a full investigation and all the reasons for the failures leading up to 7 October are revealed, as well as deep empathy for those involved in the very difficult, human endeavor of intelligence collection and analysis. We do so not with criticism, but with the hope that communities inside and outside of governments will learn and embrace a culture of humility and openness in their drive toward improved analytical rigor to limit future intelligence failures and resulting tragedies.

Endnotes

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