What Kahn Got Wrong: On Escalation

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Re-reading Kahn fifty years on: he gave us a ladder, and we mistook it for the building. The rungs-and-thresholds model did real work, but concealed an assumption that climbers inhabit similar enough worlds to read one another's signals symmetrically. That assumption fails now: actors run different ontologies; loops spill at once into the slower industrial-logistical systems that strategy undermodels. Escalation is not a ladder but recursive model warfare across coupled control loops, and the real shouting has begun in the pipes.

I first encountered Herman Kahn in the Des Moines Library in the 1960s, when the Cold War was very much an operating condition rather than a historical style. But even before that I had seen one of its principal actors with my own eyes. I was five when Khrushchev rode down Beaver Avenue in Des Moines in a black open car, waving to the crowds two blocks from our house. I remember the bald head, the strangeness of the spectacle, the proximity of a man who on all three TV channels existed as world-historical danger. It was later, as a teenager, that I read Kahn, especially "On Escalation: Metaphors and Scenarios"(Praeger, 1965), the book in which his ladder of rungs, thresholds, and signals took its canonical form. He was not wrong to do so. But I can see now, in my seventies, that the underlying cybernetic structure was always topologically far more complex than Kahn's diagram. Escalation is not just a ladder. It is a set of coupled control loops operating across actors who do not share the same ontology, the same utility function, or even the same sense of what game they are in, or what theories they hold about one another's minds.

Kahn's ladder made a deep impression on me because it did real work. It forced people to stop talking as though the world came

in only two states, peace and apocalypse, and to think instead in gradients, thresholds, bargaining positions, controlled climbs, and disastrous misreadings. This was a major advance. My second job out of university was as a Cold War radar engineer at Northrop Aviation Advanced Systems, building electronic-warfare spoofing systems. By then the grammar of signaling, deception, thresholds, and misreading was no longer something I had merely seen in motorcade form or encountered in RAND prose. It was literal machinery, and math that I composed into running code.

Now, it is not fair to say that the old Cold War strategists simply failed to grasp difference. They were actually much alike, on both sides. In some of the most dangerous confrontations of that era, the principal actors were in fact unusually legible to one another by the general standards of history. Kennedy and Khrushchev were formed in very different worlds, one a wounded PT-boat commander in the Pacific, the other a Party officer tempered by the Siege of Leningrad and the industrial slaughterhouse of the Eastern Front. But both belonged to disciplined states with real chains of command, strategic bureaucracies, and leaders who knew, not abstractly but in their bones, that large machines kill large numbers of people very quickly. There was enough commensurability there, not of values exactly, but of hardness, consequence, and statecraft under mortal pressure, that signaling could work.

The apparent success of Kahn's escalation ladder in the Cuban Missile Crisis distracts attention from an important flaw. The ladder worked well enough under those rather special conditions that generations of lesser minds began to imagine escalation itself as inherently and merely ladder-shaped. But that shape depends on a hidden assumption: that the climbers inhabit sufficiently similar worlds to read one another's movements with rough symmetry. Not identical interests, of course. Kahn was too intelligent for that child-

ishness. But similar enough notions of warning, humiliation, restraint, prestige, cost, and acceptable risk that one side could send a signal and the other would recognize, if not agree with it, at least the category of thing being sent.

More than that, the mature Cold War had achieved a grim stability. Not peace, certainly, but an orbit in a stable dynamical system. Perturbations were dangerous, sometimes hideously so, yet they occurred within a structure that still possessed restoring forces. Our situation is worse. We have been shoved sharply away from an older orbit, and the successor order has not yet settled into one of its own. Under such conditions, escalation is less like climbing a ladder than like perturbing a badly damped system near a basin boundary.

This matters because a stable system can absorb insult, bluffing, noise, and partial misreadings in ways a transitional one cannot. In an older order, actors could misjudge one another and still remain inside the same basin of behavior. In a system that has been sharply perturbed, the same misreading can push the whole ensemble across a threshold into a new dynamical regime. The old restoring terms weaken before the new ones are known. That is why this moment feels so much more dangerous than the bright maps suggest. It is not merely that the actors are armed, vain, or half-blind, though many are. It is that they are now acting inside a field whose prior stability has been damaged while the next stability has not yet formed. Chaos moves into the foreground.

This is where theory of mind enters with a knife. Escalation is not merely a sequence of moves on a board. It is recursive model warfare. Each actor acts partly on the world and partly on its model of the adversary's model of itself. Each tries to infer thresholds, humiliations, sacred values, domestic fragilities, factional constraints, bluffing habits, and the point at which pain becomes politically or spiritually intolerable. Each also tries to alter those models. The re-

sult is a control problem made unstable by recursive mis-modeling.

What makes this worse is that there is seldom one game in progress. There are several, nested inside one another, cross-coupled, only partly visible, and often moving at different speeds. There is the battlefield game, yes, but also the alliance game, the domestic legitimacy game, the factional succession game, the clerical game, the militia recruitment game, the donor and patronage game, the media game, the historical-memory game. An action that is prudence in one of these can register as cowardice in another, sacrilege in a third, and splendid opportunity in a fourth. The same missile strike, port seizure, convoy interception, or assassination is therefore not one event in political meaning. It is many, each entering a different interpretive apparatus and emerging with a different strategic meaning. Many voices and many ears.

This is where the pundit class, with its animated maps and coy vocabularies, so often disgraces itself. It speaks as though "send a message" were a simple matter, as though the message remained the same after transmission, as though the receiver were a stable and unitary mind, and as though domestic factions, clerical legitimations, old humiliations, television audiences, and online ecologies were merely atmospheric noise. They are not noise. They are part of the circuit. A signal carefully calibrated for one layer of the system may be metabolized by another and returned in altered form. Sending a message is not a telegram.

This is why I say that escalation is not merely strategic, but cybernetic. We are dealing not with one board and two players, but with coupled control loops, partial models, delayed inputs, hidden state, and continuous error. Worse, the actors are trying to model one another while also deceiving one another, and while parts of each polity are deceiving other parts of the same polity. This would already be a difficult engineering problem even if all actors shared a

common ontology and a common elite grammar. But they do not. Some are secular and actuarial; others dynastic, theological, revolutionary, revanchist, or millenarian. Some fear material damage most. Others fear dishonor, loss of face before a key constituency, or loss of divine or historical legitimacy. Some optimize for state continuity. Others optimize for factional survival inside the state, which is a very different thing. The result is often not a distorted version of the same game, but a different game altogether.

Many strategic failures are not failures of resolve. They are failures of modeling. One side imagines that it has offered a measured warning; the other experiences it as insult without consequence. One side believes it has shown admirable restraint; the other concludes that fear has been detected and can be exploited. One side makes what it thinks is a symbolic gesture; the other treats the symbol as materially load-bearing and answers in blood. Then our solemn television theologians of deterrence appear to explain that one or the other actor has behaved irrationally, when what has actually happened is simpler and uglier: the analysts have mistaken their own local strategic grammar for universal reason.

The old ladder language conceals something else. It suggests a single vertical axis, one shared slope upward, one common understanding that this rung is above that one. Real poleis do not grant us that simplicity. A move that feels escalatory in one theater may be stabilizing in another. A concession abroad may be politically fatal at home. A strike that is materially minor may be symbolically enormous. A regime may absorb physical losses more easily than public humiliation. A militia may welcome retaliation that a state sponsor would prefer to avoid. A clerical faction may treat martyrdom not as cost but as fuel. At that point one is no longer climbing a ladder in common. All are moving through a distorted manifold in which direction itself is disputed.

This is the point at which game theory, useful as it remains, begins to show its age unless one is very careful. The Prisoner's Dilemma, Chicken, bargaining games under incomplete information, all of these still illuminate pieces of the picture. But they seduce analysts into assuming too quickly that the payoff matrix is shared, stable, and legible. Often it is none of those things. Worse, the players may not agree on what counts as a payoff. One may seek deterrence, another prestige, another domestic survival, another divine vindication, another merely the prevention of appearing weak before a narrow but decisive internal audience. The mathematician may still write down a game, certainly. But if he writes down the wrong one, the algebra does not rescue him. It merely lends false elegance to his mistake. Precision is not accuracy.

Consider the current Middle Eastern theater, where the strategic commentariat keeps lapsing into a language inherited from the late Cold War, as though Israel, Iran, the United States, the Gulf monarchies, Hezbollah, the Houthis, Iraqi militias, domestic American television, clerical legitimacy, and global energy markets were all players seated at one tidy table reading from the same rulebook. They are not. To speak of "sending a message" into that situation as though one were addressing a single adversary is already to be wrong at the level of architecture. It is the sort of mistake made by people who confuse a static wiring diagram with a moving factory.

Take Iran. The Islamic Republic is not merely a state in the Westphalian sense. It is also a revolutionary project, a clerically mediated legitimacy structure, a factional ecosystem, a prestige machine, and a patron of proxies whose agency is real and not always perfectly obedient. Any external strike or threat therefore enters not one decision loop but several. It is received by the formal state, by the Revolutionary Guard, by clerical authority, by rival internal factions, by proxy clients, and by a public sphere in which martyrdom, humiliation,

endurance, and sacred duty are active political variables. A signal that Washington may regard as carefully measured can therefore be read in Tehran not as prudent restraint but as insult without sufficient fear, or as proof that the adversary wishes to avoid wider war and may therefore be pushed further. This is not insanity. It is a different interpretive structure, running a different world-model.

Israel, for its part, is no simple unitary actor either, and the habit of discussing it as though "Israel calculates"in one voice is lazy to the point of malpractice. There is the state, the cabinet, the security establishment, the intelligence organs, coalition politics, public trauma after October 7, religious-nationalist currents, settler maximalism, and the brute historical weight of the Shoah sitting permanently in the background like a partially shielded reactor that never fully shuts down. Inputs entering that polity are not processed solely as questions of material damage. They are processed through memory, existential fear, domestic coalition maintenance, deterrent credibility, and the intolerable political danger of appearing passive in the face of declared enemies. What an outsider imagines to be a narrow tactical gesture can therefore register inside the Israeli system as a test of national viability itself.

The United States then enters and makes the situation still uglier. Washington is not only trying to affect Iranian and Israeli behavior. It is also managing alliance credibility, domestic electoral politics, television audiences, Congressional theater, military posture, oil prices, carrier survivability, Gulf basing rights, and the increasingly grotesque compression of real strategic analysis into sound bites for people who do not know the Strait of Hormuz from a gated subdivision. What is presented as a foreign-policy signal may be aimed just as much at suburban voters, donors, cable-news panels, or primary constituencies as at the nominal adversary. It is therefore entirely possible for the United States to believe it is saying one thing

abroad while actually saying three or four, some of them contradictory, because different parts of its own apparatus are optimized for different audiences.

Then come the proxies, which is where the old ladder image really begins to wobble and then collapse in a small undignified heap of formerly useful lumber. A proxy is not just a subordinate chess piece pushed across the board by a master hand. It is an allied or dependent control loop with its own incentives, internal legitimacy needs, risk tolerances, and performative obligations. Hezbollah, the Houthis, Iraqi militias, each occupies its own strategic ecology. Each must maintain credibility with patrons, followers, rivals, and local populations. Each may treat escalation not simply as obedience or disobedience but as identity maintenance. That means a patron may desire calibration while the proxy desires display. The sponsor seeks bounded pressure; the client seeks relevance, glory, recruitment, deterrent mystique, revenge, or simply proof that it still exists in history. Once again the loops are coupled, but not identical. There is no single hand on the tiller.

And over all of this floats the market, which is not an observer but another active sensory organ in the larger structure. A tanker seizure, a missile launch near shipping lanes, a refinery strike, a drone swarm over port infrastructure, these are read not only by governments but by insurers, commodity traders, underwriters, shipowners, agricultural planners, fertilizer buyers, and central banks. An action intended for one adversary therefore leaks immediately into pricing systems, risk models, freight rates, and political expectations far away from the battlefield. In this theater one does not merely escalate against armies. One escalates against molecules, premiums, shipping calendars, and harvests. The closure of Hormuz, or even the credible threat of it, is not a theatrical flourish. It is a pressure wave moving through the logistical metabolism of the planet. The

old ladder model does not vanish here, but it becomes badly incomplete. It notices the military rungs while under-modeling the cybernetic aftershocks.

What this means in practice is that the war is not where television says it is. Or not solely there. It is not merely in missile arcs, bunker penetrators, cabinet statements, militia videos, or the solemn facial arrangements of men in suits pretending to know more than they do. It is also in tankers, reinsurers, charter rates, fertilizer cargoes, refinery throughput, spare parts, shipping schedules, and the price of bread several systems away. Hormuz is the obvious case because it is not merely a strait on a map but a valve in the world's circulatory system. A closure, or even a credible threat of partial closure, does not just move oil prices. It alters insurer behavior, freight premiums, refinery planning, fertilizer economics, and therefore food. The ship burns on camera; the crop failure arrives later. That is why so much strategic commentary remains childish. It asks whether a strike "sends a message"while the real system is asking harder questions about war-risk premiums, ammonia, urea, diesel, food imports, and industrial timing. These are not downstream "impacts."They are the propagation of the disturbance through the real system. Logistics is not aftermath. Logistics *is* the war, extended through time.

The underwriters understand this better than the diplomats, which is one of the smaller disgraces of the current age. The marine insurer, the shipping analyst, the fertilizer buyer, the commodity trader, these people are often closer to the real topology of escalation than the televised strategic sage with his coifed hair and grave nods. They are paid to model consequences over time rather than posture. They ask what becomes uninsurable, what can still move, what lead times stretch past recovery, what substitutions are physically possible, and what stocks are real and what are accounting fictions. They are not deeper souls. They are simply mandated to stay closer to the ma-

chinery of production and consumption.

This too is part of what Kahn under-modeled. The ladder is a diagram of overt conflict behavior among adversaries. Useful, as far as it goes. But in an interdependent industrial world escalation spills almost immediately into systems that are neither military nor optional. Freight, fertilizer, insurance, diesel, food, port throughput, refinery feedstocks, industrial gases, these are not background conditions. They are coupled subsystems with thresholds of their own. Once they are struck, the war has already escaped the clean conceptual box in which strategists prefer to keep it. The official argument continues among states. The real shouting has begun in the pipes.

This is why I keep returning to molecules. Urea is not a metaphor. Diesel is not a metaphor. LNG cargoes, delayed replacement of massive heat exchangers, marine war-risk premiums, exclusion zones, and shipping calendars are not metaphors. They are the means by which "regional instability," that antiseptic bureaucratic lullaby, becomes hunger, inflation, regime stress, and then more instability. By the time the newspapers notice this, usually by finding a photogenic farmer or a mildly alarmed shopper in the heartland, the causality has already been at work for weeks or months. Television notices the flame. Systems feel the pressure wave.

This is not a peculiarity of Hormuz. The South China Sea and Taiwan present the same lesson at larger scale. The public imagination defaults to the cinematic: missiles, carriers, amphibious arrows, the usual pornography of hardware. All of that matters. But if one stops there, one is still looking at the war the way a child looks at a classic steam engine, captivated by rods and pistons while ignoring the boiler, the track, the water, and the timetable. A serious war over Taiwan would propagate at once into shipping confidence, marine insurance, container schedules, electronics manufacturing, energy markets, and every supply chain that depends on the assumption

that high-volume maritime transit across the western Pacific will remain boring. Boring is one of the master variables of civilization. Once it vanishes, everything downstream begins to twitch. Oh, may we all live in boring times. But we do not.

This is also where the present American right, and above all the Trumpian mind, shows its crippling inadequacy. I do not mean merely vulgarity, though there is a surplus of that. I mean structural incompetence. The mentality in question thinks in spectacle units. It thinks in threat displays, public humiliation, slogan velocity, ratings, dominance rituals, and the emotional coloration of the room. It does not think well in systems. It does not ask what an actual Middle Eastern war would do to helium, fertilizer, sulfur, aluminum, shipping insurance, refinery throughput, global food stress, or the industrial gases on which absurdly many quiet modern processes depend. It does not ask what a Pacific war would do to shipping lanes, container rhythms, fabrication chains, and the concentrated geographies on which technological civilization now rests. It thinks that to act tough is to control events. This is the superstition of men who have never had to keep a complex machine inside tolerances. They cannot think of the new equilibrium that follows disequilibrium at scale.

The failure is not merely moral, though it is banally that as well. It is epistemic. One cannot manage escalation in the real world while thinking of war as branding with explosives. One cannot preserve room for control while ignoring the underwriters, the shippers, the fertilizer plants, the aluminum smelters, the LNG trains, the repair yards, the choke points, and the agricultural clock. One cannot be a steward of national power while remaining indifferent to the pipes. The people who talk most loudly about strength are often those least capable of following consequences through a coupled system. They imagine resolve where there is only theater. They imagine con-

trol where there is really delayed feedback they have not bothered to model. Strutting about and declaiming does not persuade underwriters.

And that, finally, is one of the ways Kahn's ladder can mislead even intelligent readers now. It encourages the eye to remain on the visible axis of confrontation. Who struck whom. Who climbed. Who backed down. Which rung. Which signal. Which reply. Necessary questions, certainly. But insufficient. The more consequential escalations may already be occurring elsewhere, in the slower and less photogenic systems by which industrial societies remain alive. That is where the real costs accumulate, where the room for maneuver narrows, and where yesterday's performative swagger becomes tomorrow's famine, shortage, inflation spike, or strategic paralysis. Ugly constraints that cannot be evaded.

Kahn was trying to make catastrophe thinkable. That composed his dignity and his gravitas. He was one of the men who insisted that if civilization was going to live under thermonuclear shadow, then frightened adults had better learn to think in gradients, thresholds, signals, and controlled climbs rather than in pieties and nervous slogans. I still respect that. I respected it as a teenager in the Des Moines Library, and later from much closer range, once I had entered a part of the Cold War system myself. I am still, in that sense, a Cold Warrior, and a cyberneticist besides. I still respect the cold-eyed effort to think clearly in the presence of catastrophe. But the ladder is no longer enough. It was a useful projection cast by a harsher and higher-dimensional structure. He gave us a ladder; we mistook it for the building. What Kahn got wrong was not that escalation has structure, but that the structure could be rendered cleanly enough to stand on its own. In the world we actually inhabit, the signal passes through minds, myths, factions, markets, and molecules before it returns its bounced and transformed echo. By then it is no

longer the same signal, and may no longer belong to the same war.

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