Wargaming to Deceive the Sponsor
Why and How?

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Speaker's Notes

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Why Study Deceptive Wargames?

One important use of wargaming is to inform high stakes defense decisions concerning acquisition of equipment or implementation of concepts. In any situation where the stakes are high there will be motive for engaging in deception if the decision makers have a career interest in the value of the program or concept being wargamed, or belong to a community with such an interest, or simply believe in the value of the program or concept independent of the results of inquiry. Vulnerability to deception is introduced if the barriers to engaging in deception and the likelihood and penalties for being caught are low. Stakeholders with influence and motive to deceive include the sponsor, the organization producing the wargame and players (including their respective chains of command).[1]

We desire general principles of good wargame design and execution that provide the best possible information support within the limits of wargaming to the decision process. One way of improving a process and ensuring its quality is to examine what happens when the process runs poorly or fails. However, lessons learned from examining failed or poor wargames and identifying the wargame pathologies is insufficient – the opposite of a well-designed game is not simply a poorly designed one.

Understanding the mechanisms behind the deliberate corruption and manipulation of the wargame process in the form of "deceive the sponsor" as a baseline for malignancy, will help us build processes explicitly designed to detect deception (inadvertent and deliberate) and defend against it, and will identify additional wargame design, development and execution principles that do not surface from simply examining "best practices" or "lessons learned".

These speaker's notes to the conference presentation discuss the psychology involved in how one can deliberately and with malice aforethought design and execute a wargame to deceive the decision makers who use wargaming to inform their decision making. The two primary methods explored will be the manipulation of the sponsor and the sponsor's chain of

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[1] Downes-Martin, Stephen, "Your Boss, Players and Sponsors: The Three Witches of Wargaming", Naval War College Review 2014, Vol 67, No. 1, pp 31 – 40

command (for example the Sponsor's action officers) outside the game, and the manipulation of game players during the game in order to deceive the Sponsor.[2]

Critical Caveats

Wargaming in this paper refers to serious national security related wargaming done by or for organizations such as the US DoD (or equivalent for other Nations) addressing novel future related problems dealing with the acquisition or modification of equipment or the implementation of concepts at the operational or strategic level. It does not deal with hobby gaming, tactical gaming of well understood scenarios, training or education. It might be the case that the arguments in these notes apply to such cases, but these notes do not make or discuss that claim. Furthermore, the discussion does not distinguish between the roles within an organization that provides wargaming (wargame director, designer, developer, analyst, etc.), since who does what within the wargaming organization is not important to this discussion.[3]

The discussion does not address the "hidden scenario" approach in which one benignly deceives the players as to the nature of the scenario in order to "hide the benefits of hindsight or the pitfalls of prejudice" gained from previous experience with real world or wargamed events.[4] Also the discussion does not address players deceiving their protagonists in the game to explore operational or strategic deception.

This discussion is strictly focused on games that deceive the sponsor for bureaucratic and programmatic reasons.

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[2] Manipulating the Sponsor outside the game starts with the first approach by the sponsor to the organization responsible for providing the wargame, and continues through the game to the delivery of the final report by the wargaming organization.

[3] For an excellent review of the roles within an organization that provides national security related wargames for the US DoD see the "War Gamers' Handbook: A Guide for Professional War Gamers", Edited By Dr. Shawn Burns, War Gaming Department of the Naval War College, https://www.usnwc.edu/getattachment/Research---Gaming/War-Gaming/WGD-HB---Complete-2.pdf.aspx.

[4] For a discussion on "Hidden Scenarios" see page 87 of "Innovations in Wargaming Vol 1 Developments in Professional and Hobby Wargames" 2012 by John Curry. For a hidden scenario wargame see "Home Front 86" by Timothy McCoy Price, 1986 (provided by Major Tom Mouat). For an example of a hidden scenario in the Organizational Behavior Classroom see the "Carter Racing" case study "Facts, Figures, and Organizational Decisions: Carter Racing and Quantitative Analysis in the Organizational Behavior Classroom", Jack Britain & Sim Sitkin, Journal of Management Education, 1989, Vol 14, #1.

The Deception Target

Most of us have experienced sponsors seeking to have their ideas "validated" by a wargame, and watching some organizations provide precisely a game that appears to do that. But that is easy, the sponsor or organization has set out to suspend disbelief in their own ideas. It is more useful to examine how to design and execute a game which successfully persuades a skeptical sponsor to believe in and act on the deception. Our goal is to understand that process and the factors involved in order to create wargames that are resistant to inadvertent and deliberate deception even when the deceiver is skilled enough to hide the existence of the deception.[5]

One use of wargaming is to inform the decision process concerning acquisition of equipment and implementation of concepts. The time, financial and opportunity costs are high as are the consequences of getting these decisions wrong in terms of blood and treasure. For high stakes decisions the decision makers are therefore and obviously senior military officers and civilian officials, and herein lies an opportunity for the malign deceiver. Research shows that older and more experienced people tend to be vastly overconfident about their ability to control events that involve chance.[6] Their successes in past situations, many of which involved elements of chance, lead them to underestimate the role of luck and to overestimate their ability to handle contingent situations.[7] This is especially true in competitive situations, where competence at bluffing is critical to success but can mask actual incompetence thanks to luck.[8] We have decision makers facing high stakes decisions who as a group tend to be over confident in their abilities. Not only can this be exploited to deceive them, but they are open to falling

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[5] This is analogous to microbiologists studying disease, simply following a regimen of healthy living only goes so far.

[6] Most people tend to interpret "most people tend to" as meaning "everyone else but not me." This is especially true of senior, experienced, and successful people, precisely because they have been successful in the past.

[7] Ellen J. Langer, "The Illusion of Control," *Journal of Personality and Social Psychology* 32, no. 2 (August 1975), pp. 311–28.

[8] Dominic D. P. Johnson, Richard W. Wrangham, and Stephen Peter Rosen, "Is Military Incompetence Adaptive? An Empirical Test with Risk-Taking Behaviour in Modern Warfare," *Evolution and Human Behavior* 23 (2002), pp. 245–64. See also Eliot Cohen and John Gooch, "Military Misfortunes: The Anatomy of Failure in War" (New York: Free Press, 1990), and Malcolm Gladwell, "Cocksure: Banks, Battles, and the Psychology of Overconfidence," *New Yorker*, 27 July 2009.

into the trap of deceiving themselves or others in the decision process about which alternative best satisfies the stated selection criteria. Understanding what they are over confident about gives the deceiver and edge by exploiting what have been identified as the three risk factors for intellectual fraud. In nearly all cases of scientific fraud, three risk factors have been identified as present:

1. the perpetrators "knew, or thought they knew, what the answer to the problem they were considering would turn out to be if they went to all the trouble of doing the work properly;

2. were under career pressure;

3. and were working in a field where individual experiments are not expected to be precisely reproducible."[9]

In wargames, the first factor is likely present for senior, more experienced people – precisely the people engaged in the decision process – given the results of the psychology research just presented, that older and more experienced people tend to be unaware of their lack of skills in novel situations and to be overconfident. The second factor is often present; the third factor is clearly characteristic of warfare and wargaming. The three risk factors for (perhaps unintended) intellectual fraud must be considered likely to be present when wargaming novel and important operational and strategic problems. The presence of these three risk factors imply that at least self-deception must be considered to be likely present among senior officers and senior civilians in the decision process informed by the wargame, and in some cases a predisposition to engage in intellectually dubious decision making will likely be present.

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[9] David Goodstein, On Fact and Fraud: Cautionary Tales from the Front Lines of Science, (Princeton, N.J.: Princeton Univ. Press, 2010). (Goodstein is vice provost of the California Institute of Technology.) See also Michael Shermer, "When Scientists Sin," Scientific American 303, no. 1 (July 2010), p. 34.

Deception Exploits

EXPLOITING STRESS

Some decision making targets are easier to deceive than others. Studies in deception indicate that three broad levels of stress in the target are of interest to the deceiver. Relaxed targets with no immediate decision required have no disadvantage to giving way to their own predispositions. They are extremely hard to deceive – i.e. shift them away from their predispositions – during whatever pre decisional analysis they are engaging in. At the other end of the spectrum are highly stressed targets that have become rigid. They are required to make a decision and without enough time to analyze information, they tend to actively search for and prefer information that supports predispositions and avoid discrepant information. They may make poor decisions, but they are hard to deceive into making decisions the deceiver would prefer they make if those are different from the ones the target is predisposed to make. In the middle of the stress spectrum are targets that are referred to in the literature as "vigilant". Research into deception has shown the counter-intuitive result that it is vigilant targets that are easiest to deceive. They are under tension because a decision is required but have enough time to deal with information, so it becomes possible to change beliefs by inserting deceptive information.[10]

The deception planner must identify who in the sponsor and decision chain are relaxed or rigid and identify their predispositions and underlying biases and beliefs to determine if they support the deceiver's goals. If they do not then an attempt must be made during pre-game negotiations and design to increase the stress on relaxed targets (perhaps by deliberately expanding the scope of the game or the number of game objectives, or by introducing rigid/stressed colleagues to the relaxed ones) and reduce the stress on rigid/stressed targets (perhaps by introducing delays in the wargame schedule to provide the target more time and thus reduce stress during the pre-game negotiations and design process). These approaches are

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[10] Donald Daniel and Katherine Herbig, "Propositions on Military Deception" in *Strategic Military Deception*, Donald Daniel and Katherine Herbig (Eds), Pergamon Press 1981.

very much easier if very senior leaders in the sponsor and stakeholders' chains of command have delegated decisions about the game's objectives and schedule to action officers, who being more junior are more available.

If the goal is to manipulate the perceptions of the sponsor through deceiving the players, then the game design should consider manipulating the stress of the players. If the deceiver believes the players have strong pre-conceived beliefs about the concepts or equipment being gamed and those beliefs are other than what the deceiver desires, then the game design must balance the stress on the players to engender a vigilant state of mind. Deceptive material can then more likely be introduced into their game behavior. On the other hand, if the players' beliefs agree with what the deceiver desires then the game design should overstress the players to drive rigid perception behavior and lock them into their preconceived beliefs. Players who "check out" of the game can be ignored. Indeed, the more who do so the more the diligent players will be stressed.

EXPLOITING ERRONEOUS BELIEFS AND PERCEPTIONS

Another incision point into the psychology of deception targets is provided by research into the nature of beliefs. Amplifying the overconfidence problem is the effect demonstrated by research that "beliefs can survive potent logical or empirical challenges. They can survive and even be bolstered by evidence that most uncommitted observers would agree logically demands some weakening of such beliefs. They can even survive the total destruction of their original evidential bases."[11] Asking someone to generate an explanation of why something is true often will strengthen belief in that "something" even after contradictory evidence is provided.[12] In addition, corrections to erroneous evidence may actually strengthen

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[11] Lee Ross and Craig Anderson, "Shortcomings in the Attribution Process: On the Origins and Maintenance of Erroneous Social Assessments," in *Judgment under Uncertainty: Heuristics and Biases*, Daniel Kahneman, Paul Slovic, and Amos Tversky (Eds), Cambridge Univ. Press, 1982, pp. 129–52

[12] Martin F. Davies, "Belief Persistence after Evidential Discrediting: The Impact of Generated versus Provided Explanations on the Likelihood of Discredited Outcomes," *Journal of Experimental Social Psychology* 33, no. 6 (November 1997), pp. 561–78.

misperceptions under some circumstances.[13] This is especially useful when the wargame designer couples this to player stress to influence the sponsor by deceiving the players. The Central Intelligence Agency analyst community suggests five reasons for the persistence of (even discredited) beliefs;[14]

> ➢ "We tend to perceive what we expect to perceive."
> ➢ "Mind-sets tend to be quick to form but resistant to change."
> ➢ "New information is assimilated to existing images."
> ➢ "Initial exposure to blurred or ambiguous stimuli interferes with accurate perceptions even after more and better information becomes available."
> ➢ "Surplus information results in reduced accuracy of conclusion and an over-confidence in that conclusion."

The implications of these established results are startling when applied to deception. It is reasonable to expect information to be blurred or ambiguous in the initial phases of any operation. Any system that rapidly provides information – something most decision makers desire – will have the distinct potential of not only interfering with accurate perceptions, but also of reducing the use made of better information in the future (thus locking in the initially formed inaccurate perceptions) while at the same time increasing the confidence in the inaccurate perceptions. We face the real possibility of our deception targets rapidly acting with confidence on an institutionally accepted but erroneous picture of the world. Since we can expect initial information to be blurred or ambiguous, the deceiver should explicitly deal with this to manipulate the target's future perceptions.

The sponsor is the ultimate deception target, but if the sponsor believes in the quality of the game then deceiving the players into making game decisions preferred by the game designer is a possible mechanism for manipulating the post-game decision process of the sponsor. Note that strategic or operational level games dealing with novel future situations require an

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[13] Brendan Nyhan and Jason Reifler, "When Corrections Fail: The Persistence of Political Misperceptions," *Political Behavior* 32, no. 2 (June 2010), pp. 303–30.

[14] Richards Heuer, Jr., "Perception: Why Can't We See What Is There to Be Seen?," chap. 2 in *Psychology of Intelligence Analysis*, 1999 www.cia.gov/. See also Robert Jervis, "Understanding Beliefs", *Political Psychology* 27 (Fall 2006).

inductive game design in which the adjudicators are not only players but in fact are dominant players.[15] Since players may have motives for playing to deceive the sponsor (not just the opponent players) then the same is true of the adjudicators. Furthermore, this motive is amplified into a vulnerability if the adjudicators are provided by the organization producing the wargame via a deceptive design. One possible way to manipulate the decision behavior of the players without the sponsor noticing is to ensure players requests for information is answered with large amounts of detailed information whenever they ask for it starting from the very beginning of the game. People tend to home in on their comfort level (tactics) even during an operational level game, tend to seek confirmatory information, and tend to seek more information than they need to make a decision, so answering all requests for information from the beginning of a game will tend to assist the players in locking onto their initial perception.[14] Careful construction of the initial scenario will increase the probability that the initial scenario is ambiguous (which reflects reality) in a way desirable to the deceptive game designer. Answering requests for information will be perceived by the sponsor as an innocent and reasonable way to run the game.

EXPLOITING CHEATERS

One of the five categories of player identified and discussed by Salen & Zimmerman is the Cheater, the player who pretends to buy in to the game but violates the operational rules of the game in secret motivated by an intense desire to win.[16] The cheater seeks a deep understanding of the game's rules and then ways to break them secretly to further their goal of winning the game. Closely related to the Cheater is the Dedicated player, also with an intense desire to win who seeks to understand the rules in order to best use those rules, without breaking them, to win. Both of these types of players are valuable to the game designer. The latter may find loopholes in the rules that assist game designers to refine the game and improve future games. The game designer should build into the game design mechanisms for

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[15] Downes-Martin, Stephen, "Adjudication: The Diabolus in Machina of Wargaming", Naval War College Review 2013, Vol 66, No. 3, pp 67 – 80

[16] Katie Salen and Eric Zimmerman, "Rules of Play: Game Deign Fundamentals", MIT Press 2004, see chapter 21.

spotting and controlling cheating behavior, simply assuming cheating does not occur in wargames – even by otherwise honest people – is naive. However, the cheater may be exploited by the game designer to deceive the sponsor. By selectively relaxing the monitoring function, or better by simply monitoring for cheating but not stopping it, and by setting up the game mechanisms and scenario to make it hard to win without cheating using methods desired by the deceiver (for example the subject categories discussed above), the game designer can create a game in which winning occurs because of mechanisms that are hidden from the sponsor (and other players). One real world example of cheating during a wargame seen by the author involved two officers from the same community but playing on opposite sides. The officers' community had an interest in the game outcome going in a certain direction. During the game we found the two officers passing information between themselves via the infamous "sneaker net" in order to influence their cell commanders.

AVOID LEAVING FINGERPRINTS

It is a wise deception planner who plans ahead to divert blame for the deception should it be discovered. Detecting the existence of such a plan is an important part of inoculating against deception. The deception planners passive defense against detection is the rotation frequency of the sponsor's position and the deception planner. However, if the deception is suspected by the sponsor while the deceiver is in position then the design notes for the game and records of the game execution can provide a distraction defense. These documents must be carefully written so that a reading of them in the absence of suspicion should not indicate deception is planned or occurred; but should deception be suspected they should provide evidence of the stress on the players and ambiguity in the game rules. This will motivate the sponsor to interpret the results as caused by over-enthusiasm by some players and stress on others and not realise these were planned.

What is to be Done?

Six categories of techniques are proposed which, if insisted on being used by the wargame sponsor, will reduce the likelihood that deception vulnerabilities are exploited by dishonest stakeholders to inappropriately influence the decision that the game is intended to inform. These design techniques are in addition to those normally used for good wargaming practice. However, some of them are onerous and may not be practical for every game. They should all be considered however if only to generate other solutions and identify caveats on game analysis. The game sponsor must decide early in the pre-game process how important is the game and what level of protection from deception the game deserves, always remembering that the more important a game the higher the motives for deception.

GAME PEER REVIEW BOARD

1. The primary defense against deceptive gaming and in support of quality gaming is the game peer review board. Assuming the game is important, it should be routine that the game design document, the development document, the execution report and the game analysis report be reviewed by a peer review board. The board contains experts from the organization that produced the wargame and its associated documents and critically it includes outside wargaming experts who are not part of the sponsor's organization. Care must be taken to avoid the boards from sister organizations giving each other a free pass on dubious game design, execution or analysis. The primary focus of the game review board is on the pre-game and post-game processes. They are responsible for approving or disapproving game design, and for auditing past game analysis.

PLAYER STRESS

2. Getting good performance from game players requires them to be neither over nor under stressed.[17] However, when they are in a state of vigilance they are vulnerable to deception during the game, and so performance is correlated with vulnerability to deception. The peer review board is the primary tool for ensuring that the stress level designed into the game to enhance performance is not used to engage in malign practices.

SPONSOR VIGILANCE

3. Engage the senior Sponsor regularly and watch for any mismatch between what the Sponsor says and what the sponsor's Action Officers say. Educate the Sponsor and the Action Officers on the dangers of inadvertent deception creeping in due to stress, inappropriate expansion of game objectives, and hidden agendas.[1] Set up the game design explicitly to inoculate against deception and inform the sponsor.

PUNISH CHEATING

4. The game must include a monitoring activity, with someone in charge of it, designed to spot game rule breaking (for example meeting in the head with an opposing and trading information), and must stop the rule breakers (and perhaps penalize them) while collecting information about the breakage. How important it is to have this function will depend on the game objectives and design. The review board has a say in whether the monitoring activity of the game design is sufficient.

MATCH GAME INFORMATION FLOW TO LEVEL OF GAMED WAR

5. Be alert for attempts to introduce items into the game that are not justified by the stated game objectives (these could be introduced to warp the game results) and block their introduction.[1]

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[17] Downes-Martin, Stephen, "Stress, Paranioia and Cheating: The Three Furies of Innovative Wargaming", Connections US Wargaming Conference, National Defense University Washington DC, Jul 2015

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6. Be alert for information flows that do not match the level of war being gamed, for example tactical information in an operational level game, and modify these flows to match the game objectives. Although often appropriate, providing tactical information in response to requests for information in an operational game is one way of introducing deception into the game results.

7. Be alert for senior leaders in the chain of command of any stakeholder (including senior players) attempting to change the game flow of information, especially just before game launch or during game execution, and block these attempts.[1]

WATCH FOR AMBIGUOUS GAME RULES OR PROCESS

8. Identify rule and process ambiguities and ensure they are consciously chosen to open up the decision space for the players and adjudicators to support the game objectives, and if they are not then remove them. Monitor for cheaters and inappropriate moves by the adjudicators and design procedures for dealing with them during the game. This may be done by a combination of adjudicator injects or decisions, removal of specific people (no matter how senior) from the game, and removing the options for cheating.

ROTATE PLAYER ROLES

9. Rotate players between roles – red to blue and vice versa if possible, or between roles or between responsibilities within each cell otherwise. Not only will this provide players with a richer game play experience, it will also ensure that perceptions created in the initial stage of the game do not get locked in, they get broken and new information arriving is given its proper attention by recent arrivals into the role or responsibility being played.

Argument Structure Diagram
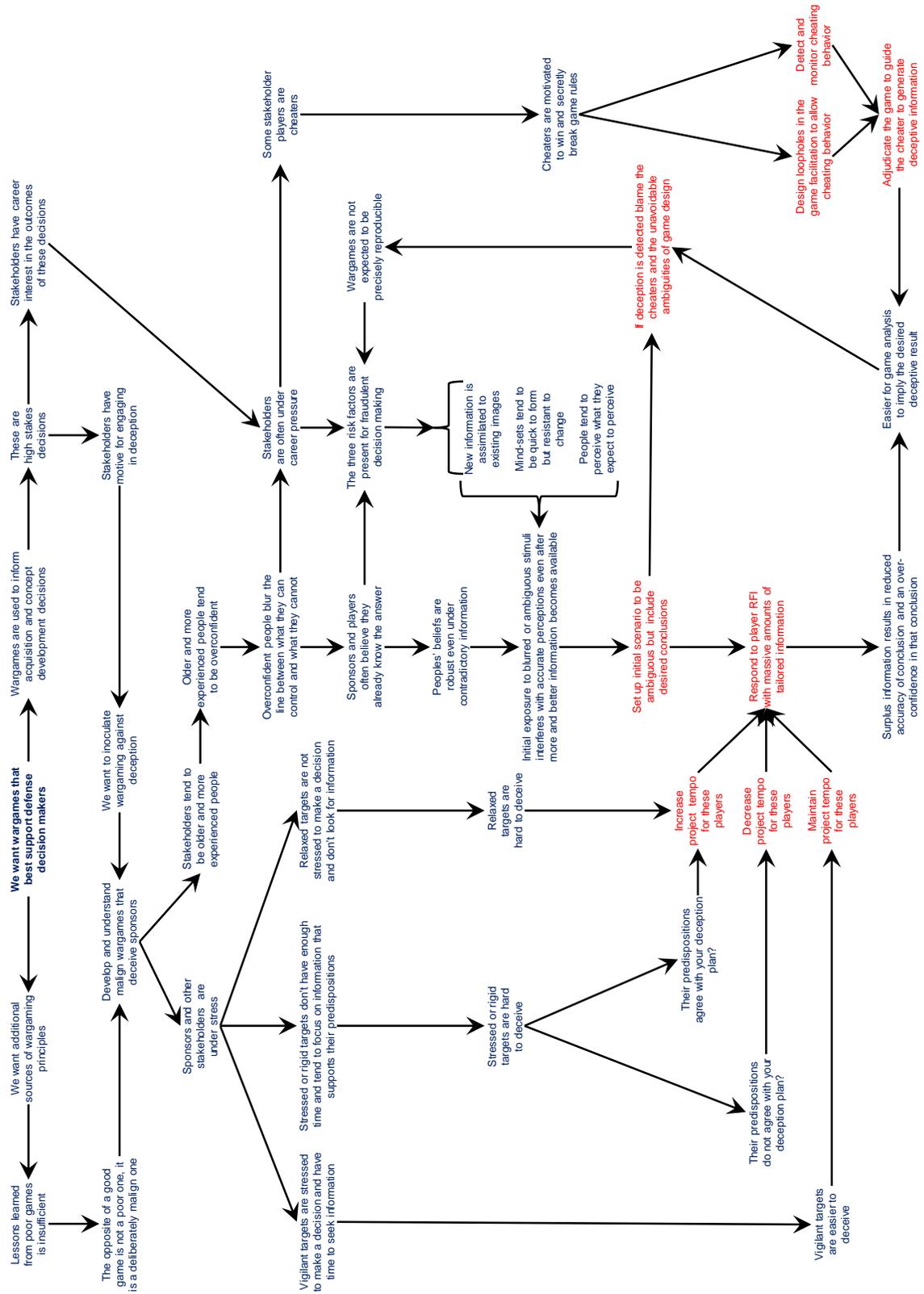
Bibliography

Bernays, Edward, "Propaganda", 1928

Brown, Anthony Cave, "Bodyguard of Lies" (two volumes), Harper & Row 1975

Britain, Jack & Sim Sitkin "Facts, Figures, and Organizational Decisions: Carter Racing and Quantitative Analysis in the Organizational Behavior Classroom", *Journal of Management Education*, Vol 14, #1, 1989

Cohen, Eliot & John Gooch, "Military Misfortunes: The Anatomy of Failure in War", Free Press 1990

Curry, John "Innovations in Wargaming Vol 1 Developments in Professional and Hobby Wargames", 2012

Daniel, Donald & Katherine Herbig (Eds), "*Strategic Military Deception*", Pergamon Press 1981

Davies, Martin F., "Belief Persistence after Evidential Discrediting: The Impact of Generated versus Provided Explanations on the Likelihood of Discredited Outcomes," *Journal of Experimental Social Psychology* 33, no. 6, November 1997, pp. 561–78

Downes-Martin, Stephen, "Adjudication: The Diabolus in Machina of Wargaming", Naval War College Review 2013, Vol 66, No. 3, pp 67 – 80

Downes-Martin, Stephen, "Your Boss, Players and Sponsors: The Three Witches of Wargaming", Naval War College Review 2014, Vol 67, No. 1, pp 31 – 40

Downes-Martin, Stephen, "Stress, Paranioia and Cheating: The Three Furies of Innovative Wargaming", Connections US Wargaming Conference, National Defense University Washington DC, Jul 2015

Gladwell, Malcolm, "Cocksure: Banks, Battles, and the Psychology of Overconfidence," *New Yorker*, 27 July 2009

Goodstein, David, "On Fact and Fraud: Cautionary Tales from the Front Lines of Science", Princeton University Press 2010

Handel, Michael I. (Ed), "Strategic and Operational Deception in the Second World War", Frank Cass 1987

Heuer, Richards, "Psychology of Intelligence Analysis", CIA 1999

Jervis, Robert, "Understanding Beliefs", *Political Psychology* 27, Fall 2006

Johnson, Dominic D. P., Richard W. Wrangham & Stephen Peter Rosen, "Is Military Incompetence Adaptive? An Empirical Test with Risk-Taking Behaviour in Modern Warfare," *Evolution and Human Behavior,* 23, 2002, pp. 245–64

Klein, Alexander (Ed), "Grand Deception: The World's Most Spectacular and Successful Hoaxes, Impostures, Ruses and Frauds", Faber & Faber 1955

Klein, Alexander (Ed), "The Double Dealers: Adventures in Grand Deception", Faber & Faber 1958

Langer, Ellen J., "The Illusion of Control," *Journal of Personality and Social Psychology,* 32, no. 2, August 1975, pp. 311–28

Nyhan, Brendan & Jason Reifler, "When Corrections Fail: The Persistence of Political Misperceptions," *Political Behavior* 32, no. 2, June 2010, pp. 303–30

Price, Timothy McCoy "Home Front 86", 1986

Ross, Lee & Craig Anderson, "Shortcomings in the Attribution Process: On the Origins and Maintenance of Erroneous Social Assessments," *Judgment under Uncertainty: Heuristics and Biases*, Daniel Kahneman, Paul Slovic, & Amos Tversky (Eds), Cambridge University Press 1982, pp. 129–52

Salen, Katie & Eric Zimmerman, "Rules of Play: Game Design Fundamentals", MIT Press 2004

Shermer, Michael, "When Scientists Sin," *Scientific American*, 303, no. 1, July 2010, p. 34

Shermer, Michael J., "Why People Believe Weird Things", Henry Holt & Co. 2002

Shultz, Richard H. & Roy Godson, "Dezinformatsia", National Straregy Information Center 1984

Sternberg, Robert J., "Why Smart People can be so Stupid", Yale University Press 2002

Whaley, Barton, "Practice to Deceive: Learning Curves of Military Deception Planners", US Naval Institute Press 2016

Whaley, Barton, "Turnabout and Deception", US Naval Institute Press 2016