Classical Deception Techniques and Perception Management vs. the Four Strategies of Information Warfare

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Abstract

- *The use of deception techniques for intelligence operations, strategic and tactical deception in war, politics, business and media manipulation is well established and well documented.*

- *This paper analyses established or 'classical' deception techniques in the context of the four canonical strategies of Information Warfare, to establish an information theoretical and game theoretical framework for future modelling and analysis.*

The Four Canonical Strategies of InfoWar

- **Degradation or Destruction [also Denial of Information]**, i.e. concealment and camouflage, or stealth; Degradation or Destruction amounts to making the signal sufficiently noise-like, that a receiver cannot discern its presence from that of the noise in the channel.

- **Corruption [also Deception and Mimicry]** , i.e. the insertion of intentionally misleading information; corruption amounts to mimicking a known signal so well, that a receiver cannot distinguish the phoney signal from the real signal.

- **Denial [also Disruption and Destruction],** i.e. the insertion of information which produces a dysfunction inside the opponent's system; alternately the outright destruction of the receiver subsystem; Denial via disruption or destruction amounts to injecting so much noise into the channel, that the receiver cannot demodulate the signal.

- **Denial [also Subversion]** , i.e. insertion of information which triggers a self destructive process in the opponent's target system; Denial via subversion at the simplest level amounts to the diversion of the thread of execution within a Turing machine, which maps on to the functional behaviour of the victim system, i.e. surreptitiously flipping specific bits on the tape, to alter the behaviour of the victim Turing machine.

Classical Deception Techniques (Haswell)

- **The Lure** – this technique presents the opponent with a sudden advantage they may exploit.

- **The Repetitive Process** – this technique conditions the opponent by repetition to accept harmless behaviour that is used as a cover for subsequent operations.

- **The Unintentional Mistake** – this technique leads an opponent to believe that valuable information has come into his hands by mistake, for instance by negligence or incompetence.

- **The Obvious Solution** – this technique provides deceptive information to support the idea that the obvious method will be used, while hiding information related to the actual method.

- **The Piece of Bad Luck** – this technique is similar to the Unintentional Mistake, except the bad luck cannot be attributed to anyone.

Tactical Methods

- Haswell's tactical methods are defined as:

- **Doctrine of Indirect Approach** – this method aims to avoid a frontal assault against an entrenched opponent, by convincing   them the attack will come from elsewhere.

- **Exploitation of the Impossible** – this method is intended to take an opponent   by surprise by doing what the opponent believes   is impossible.

Seven Principles of Deception (Haswell)

1. **Preparation**
    - ☐ Deception needs a well defined aim and to be directed at a target.
    - ☐ Needs detailed knowledge of the target.
    - ☐ Plan the entire scheme and consider the target's reaction to it.
    - ☐ Also plan the groundwork for the deception.

2. **Credibility**
    - ☐ Deception must never seem incongruous or illogical. It must be feasible.
    - ☐ It should be in line with what the target expects to happen.

3. **Multi-Channel Support**
    - ☐ All the false information on all channels must support the deception.
    - ☐ Channels must also conform to each other.
    - ☐ Positive to draw target's attention, negative to repel attention.

Seven Principles of Deception (Cont.)

4. **Centralised Control**
   - ☐ Deception schemes should be centrally controlled to avoid confusion.
   - ☐ All schemes must be centrally controlled and the level of control (headquarters) determined by the number of units involved in the plan.

5. **Security**
   - ☐ Detailed knowledge of deception limited to the smallest number of people. ·
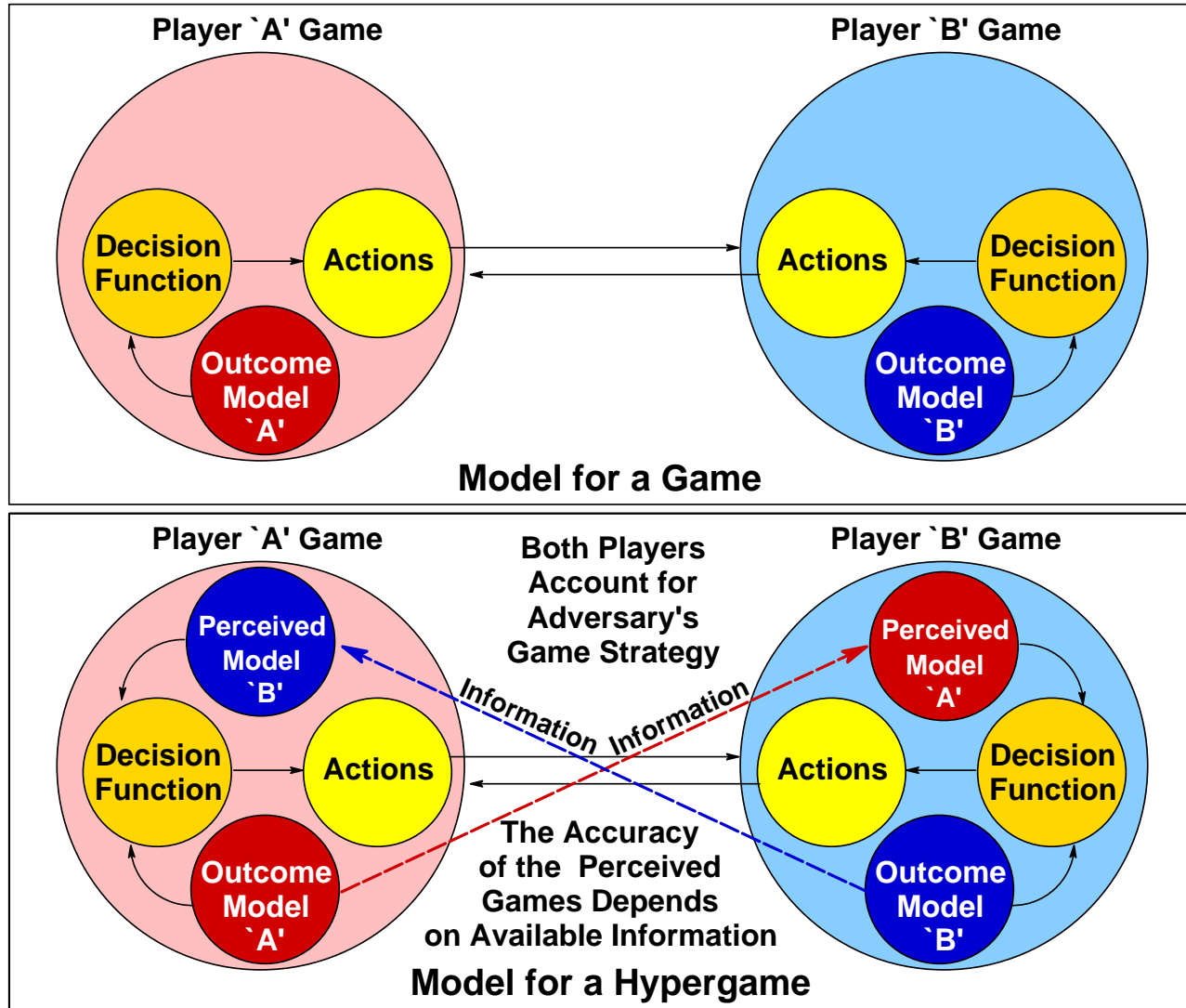   - ☐ Knowledge on a need to know basis.

6. **Flexibility**
   - ☐ A deception plan should be flexible to take advantage of unforseen developments or to abandon it without revealing the aims of the deception plan.

7. **Coordination**
   - ☐ Individuals need to know what they must do and when.

Deception as a Hypergame (Kopp 2002)

Hypergame Characteristics (Fraser 1984)

- Hypergames are games in which the respective adversaries (players) may not be fully aware of the nature of the engagement they are participating in, or indeed that they are actually participating in an engagement.

- Characteristics of hypergames include (Fraser, 1984):

  1. Players may have false perceptions of the intent or aims of the other players.
  2. Players may not understand the choices available to other players.
  3. Players may not know who other players in the game may be.
  4. A player may be subject to one or more of the previous misperceptions of the game.

Remapping the 'Classical' into the Canonical

- We remap the 'classical' deception techniques into canonical form as simple or compound strategies, each comprising canonical primitives.

- NB the four canonical strategies of information warfare are effectively mutually orthogonal primitives, which can be combined in an arbitrary manner to form a *compound strategy* (Kopp, 2005).

- Exploring many empirical case studies indicates that compound strategies are used very often in nature (Kopp, Mills, 2002).

- The results of the remapping were surprising insofar as most were instantiations of the same compound model, involving mimicry and camouflage.

The Lure

- The victim perceives an advantageous situation which has actually been fabricated to weaken their position.

- At the most basic level an example of the corruption strategy, as mimicry is employed to create a perception of an advantageous situation which does not exist.

- Degradation may be employed as a supporting strategy, by employing camouflage techniques to hide information which may expose the ruse.

- Two specific forms in the Lure:

  - The canonical form is where corruption is used alone.
  - The compound form where degradation is employed to defeat defensive information gathering by the victim player.

The Repetitive Process

- The Repetitive Process, is similar to the Lure in having the same compound and canonical forms.

- Its implementation differs as it is intended to deceive by mimicking behaviours, which are not characteristic of preparations for an attack.

- The aim of the Repetitive Process is different from the Lure, since the latter is designed to compel an opponent / victim to make a move in the game, whereas the former is intended to conceal preparations for a move by the attacker.

The Unintentional Mistake

- The Unintentional Mistake is a mimicking technique and thus also qualifies as corruption. The attacker mimics a mistake and the victim is compelled to exploit the mistake.

- More than often this play will include concealment or camouflage as a supporting strategy, and thus exists in both canonical and compound forms.

- Used as a technique to introduce a false belief that intelligence sources being used by the victim are in fact double agents, when this is not so (Haswell, 1985). As a result the victim will destroy its intelligence network in an effort to remove the believed to be compromised agents.

- If used so, it is part of a compound strategy, in which corruption and degradation are used as supporting strategies for a denial game, in which the victim is subverted into using internal resources to self destruct.

The Obvious Solution

- The Obvious Solution, is prima facie an example of corruption and degradation, in that mimicry or concealment will be employed to hide the real intent from a victim.

- It aims to reinforce an existing but incorrect perception by the victim that the obvious play is the correct play.

- Whereas earlier plays either aim to implant a false perception or aim to conceal, the Obvious Solution is mostly intended to reinforce an existing but incorrect perception by the victim.

- Knowledge of the victim's actual perception is often valuable if this play is to be implemented.

The Piece of Bad Luck

- The Piece of Bad Luck, is a form of the Unintentional Mistake and thus a canonical or compound strategy using corruption and degradation.

- The implied cause of the 'unintended' disclosure is different.

- Frequently this play will include concealment or camouflage as a supporting strategy, and thus exists in both canonical and compound forms.

Mass Media 'Perception Management' Techniques

- Notable examples are:
    1. Germany's Third Reich
    2. Soviet Union, Warsaw Pact and PRC
    3. Al Qaeda and affiliated Islamo-fascist movements
- Specific pattern of technique and the use of a sustained and internally consistent long term deception campaign, characteristically targeted at followers of the regime or movement.
- More than often 'perception management' techniques intended to attack external opponents of such regimes are unique, and indeed different from those targeting the captive population.

Strategies and Principles

- Model the victim population as the target of a systematic and organised campaign of deception by the regime or movement.

- Key strategies and principles apparent:

    1. Preparation - well defined aims in reinforcing the victim population cohesion, or the ideological / political position propagated by the regime.

    2. Credibility - the deception campaign is usually internally consistent, with arguments which follow cycles designed to avoid contradictory ideas or facts. Victim population prejudices or expectations are incorporated to reinforce credibility.

    3. Multichannel support – multiple mutually supportive deceptive arguments and fabricated facts are used to reinforce the deception campaign, and defeat attempts by the victim population to unmask the deception.

    4. Centralised control – entities such as propaganda ministries, propaganda bureaus or propaganda arms of political parties or movements are employed.

Strategies and Principles (Cont.)

5. Security – the nature of the deception campaign, i.e. knowledge of ground truth is usually only known to a small fraction of the leadership group.

6. Flexibility – the deception campaign typically adapts and evolves over time, as it adapts to changing circumstances.
   - Example is the era of Soviet purges during the 1930s, when new and 'unexpected' class enemies and traitors were 'exposed' over time.

7. Coordination – party organisations and propaganda ministries/bureaus characteristically follow rigid hierarchical patterns of organisation to provide consistent and synchronised distribution of deceptive messages to the victim populace.

8. Concealment – information which could contradict the deception campaign is hidden or destroyed.

9. Untruthful statements – untruthful statements are fabricated with the aim of mimicking the ground truth.

Observations

- The is a one to one mapping between the fundamental models used in 'classical' deception technique, and the highly structured fabrication and distribution of deceptive propaganda targeted at a victim population by the example regimes or movements.

- At the most fundamental level of canonical and compound strategies and supporting techniques, internal propaganda aimed at a victim population is indistinguishable from classical deception techniques employed in intelligence or military operations.

- *Example regimes / movements conducted or are conducting sustained deception campaigns against the victim   population, implicitly treating the victim population as an opponent in a IW hypergame.*

Propaganda Targeting Democracies

- Campaigns targeting the populations of developed democracies, in a globalised and highly networked world, follow a different pattern.

- The principal differences are a result of the lack of structural control over global media organisations and networks, which are not part of the regime or movement's internal organisation.

- While internal sympathisers may be exploited, as a rule these are not always available.

- *The result is that media organisations must be subjected to a deception effort designed to compel them to become a delivery mechanism for deceptive messages targeting the victim population.*

Mass Media Attributes

- Focussed on the delivery of 'infotainment' rather than dedicated news and news analysis.

- Timeliness of delivery has precedence over the depth of analysis or accuracy of the material.

- By-product of a commercial market dynamic - competing media players must attract the interest of viewers to achieve favourable ratings and thus attract subscriptions or advertising revenues.

- Commercial application of Goebbels' dictum that 'propaganda must be entertaining' (Goebbels, 1943).

- The implicit aim of this propaganda is transmission of the message that 'this media organisation is more attractive than its competitors'.

Observable Realities

- Viewers and readers are most attracted to footage or stories which are dramatic, violent or involve intense controversy.

- Media organisations aim to appeal to existing prejudices or preconceptions on the part of the audience.
  - Ie the same mechanism observed in propaganda distribution, as presentation of materials which challenge audience prejudices or preconceptions will be less likely to be received favourably

- Media organisation IW strategy is a compound strategy of degradation and corruption, centred on audience interest and *a priori* prejudices and aimed at maximising audience visitation rates at the expense of competitors.

- *Competitive game of 'who has the best honeypot?' with the game payoff in the frequency of visitation.*

Propaganda Targeting Western Democracies

- Attacker must wrap deceptive message in an envelope of material which is attractive to global media organisations.

- *Deceptive message must provide content which is dramatic, violent, intensely controversial, or any combination of the three, and which appeals to audience prejudices where possible.*

- In the context of the four strategies of Information Warfare, distribution of deceptive propaganda using the global mass media as a conduit employs compound strategies combining denial through subversion, degradation and corruption strategies.

- *Denial via destruction of the delivery channel is usually avoided since it compromises the intermediate aim of the strategy, which is exploitation of the delivery channel.*

Conclusions

1. Classical deception techniques can be remapped into canonical forms based on the four fundamental strategies of Information Warfare.

2. Most frequently these forms involve compound strategies, especially using combinations of degradation and corruption of information.

3. In some situations these games also include a denial through subversion component, in which the victim's resources are used to inflict damage.

4. Established mass media perception management techniques can be divided into two categories, each targeting distinct victim populations.

Conclusions (Cont.)

5. Techniques used by authoritarian regimes or movements yield a one to one mapping to the classical deception techniques and supporting methodology, ie a hypergame in which the regime and the victim population are mutual opponents.

6. Techniques used by such regimes or movements to attack the global community via mass media channels are compound strategies, centred on a denial through subversion play against the victim population, in which degradation and corruption are used to facilitate mass media distribution of the deceptive message.