

## Game theory and asymmetric warfare – is there a match?

*An interview with Col (ret) dr. J.F.W. van Angeren (RNLAf)*

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### Introduction

Asymmetric warfare is hot, because all bigger conflicts fought in the world today are more or less asymmetric. According to Bart Tromp, late professor in the theory and history of international affairs, the war fought between the United States and the Iraqi Army in the last decade of the previous century could well have been the last conventional battle between two armies which faced and strode against each other. The use of terrorism and guerilla tactics ask for a new approach for armed forces that will be confronted with such tactics. The difference is that, where an army normally fights to win, an asymmetrical fighting group's goal is already reached simply when it does not lose. Hence, as long as the group can guarantee their own existence, it is impossible for the opposing party to claim victory. Such fundamental differences in the way war is experienced, ask for new insights from the military commanders involved. By means of this interview we will try to understand this subject better, by hearing the opinion of Colonel (ret.) van Angeren. He specializes in the topics of coercion, asymmetric warfare and game theory.

**Colonel Van Angeren, you have done research into the possibilities for the use of game theory within the military organization. How did you come into contact with game theory in the first place?**

“Being liable to military service, I was lucky to be able to join the Royal Netherlands Air Force, where I was trained to be a signals officer. After fulfilling this obligation I was able to stay and fulfilled several duties. At Staff School I became interested in Strategy and in that context learned about game theory. Years later I wrote a thesis about coercion. In this thesis I tried to identify all factors playing a role within a coercive strategy and then used game theory to determine their importance, for instance in asymmetrical conflicts. The research of the combination of strategy and game theory I consider far from finished. Because of the current asymmetry of warfare more research is necessary.”

**We found the following definition of game theory:**

*The economical analysis of rational strategic choices is known as game theory. Game theory concerns the behavior and choices of different parties (players) in situations where they have to take into consideration the behavior of other players (allies or enemies). Such situations are known as “game situations”. The economical analysis of these game situations assumes that every player tries to reach an optimal result with the means that are at hand. The possible results depend on the considered usefulness the player conveys to certain functions.*

**Is this definition correct?**

“Yes, this definition is correct. But I do want to make some minor alterations to it. Keep in mind that what we are talking about here are strategic choices. The choice between alternatives is based on maximizing the utility for oneself and the assumed decisions of other players. What is most important here are the motivations of the other player(s). Game theory is a way of looking at a given situation. It tries to explain the process that leads to choices, the behavior of human beings and what they consider valuable. In theory game theory can therefore be used as a tool to predict.”

**In what way is game theory anchored within the defense policy en what is your opinion about this?**

“I am sorry to say that game theory is hardly anchored within the Netherlands defense policy, although implicitly it has seen some use. The strength of this theory is that it can ‘predict’ human behavior, and thus improve decision-making. So, by using it, decisions could be based more on rational consideration than on ‘gut feeling’. Because looking at reality this way has a lot of potential value to the military, I am trying to bring my thesis to attention.”

*Game theory can be used to study situations where two parties of unequal strength confront each other. Such an asymmetry occurs for example when a regular army has to fight guerrilla groups or terrorism. When fighting against guerrilla’s using hit-and-run tactics or terrorists, risk-avoiding players are confronted with players explicitly seeking risk.*

**What is, according to you, the essence of terrorist threats exactly?**

“Terrorists abuse the fact that we (Western armies) have to comply with International Law and treaties such as the Geneva Convention and therefore do not commit atrocities. We do not use violence in a punitive way and we are sensitive to victims. Even victims that do not belong to our own people have an impact on our public opinion and therefore on the operation. Terrorists know this and try to manipulate the press as much as possible to create an atmosphere where the public opinion is against us. They hurt us by making victims and subsequently try to exploit this as much as possible. The difficulty in fighting terrorists is that they are not easy to recognize as such. Terrorists hide within the civilian population and do not have a clear line of defense.”

**How could game theory be applied on asymmetrical warfare?**

“The application of game theory on asymmetrical warfare would be a good thing. In the first half of the 19<sup>th</sup> century, Von Clausewitz’s opinion was that an armed conflict is won when the opponent does your will, while the opinion of others is that an armed conflict is won when the opponent is destroyed. My opinion is somewhere between these two. It is not possible to defeat an asymmetrical enemy because they are not recognizable as such.

When an opponent chooses the asymmetrical approach and we a symmetrical one in terms of defeating the enemy, the opponent thereby makes our effort irrelevant which has disastrous consequences. If the premise that game theory provides and requires insight in the differentiation of utility functions is correct, then you can also use this on asymmetrical warfare. By using game theory you can also look from the opponent’s point of view instead of only from your own. This can be very helpful to bring an asymmetrical conflict to a positive end.

I only want to place some marginal comments by using game theory as a tool for prediction. You must clearly ask yourself how certain you are of something before using game theory. There is always a risk that the opponent tries to mislead you. On top of that, certainty can never be totally guaranteed and the amount of risk you are willing to take always has to be taken into consideration.”

**Can you give a clear example of a situation where according to you not enough attention has been given to game theory?**

“When we take a look at the way the United States dealt with the terrorist threat that comes from Afghanistan we can see that they did not pay sufficient attention to what has to be done when the initial battle has been fought. Right now they are trying to solve an asymmetrical problem with symmetrical manners.”

**To end, can you explicate to us some do's and don'ts for dealing with terrorism?**

“What you should not do is ‘not think’. For example, the Israeli army bombed a building in Kana last year on top of which Hezbollah rockets were positioned. While this was a legitimate military target, at the same time the building housed an orphanage. Media reports showed that at least 27 children were killed in the blast and needless to say this had major negative results for Israel's position in the public opinion accordingly.

We should focus on more than just the period of conflict. What is possibly even more important is the period afterwards. What kind of peace do you want to generate? A peace imposed by violence is more often than not a temporal solution. Game theory can be used as a means to determine the utility of such a situation. What should you do and do not to utilize coercion as good as possible.”

*Colonel Van Angeren, we want to express our utmost gratitude for granting us the time to interview you and we wish you a lot of success promoting game theory.*