

# A Wicked Problem



# Matrix Games

## What are Matrix Games?

Matrix games are different to normal Wargames. In most of those games you compare lists of statistics and peer at complicated books of rules containing someone else's idea about what things are important, before rolling a dice. It takes a long time and can be very difficult to explain to a newcomer. Instead, in a Matrix Game you simply use words to describe why something should happen, the Umpire or the players (or both) decide how likely it is and you roll a dice. If you can say "This happens, for the following reasons..." you can play a Matrix Game.

## Where did they come from?

The Chris Engle Matrix Game was created in the USA by Chris Engle, and published in 1992. Chris wanted to create a system by which it was possible for a player to "role-play" anything from a single person to an entire country. Chris felt that previous numbers-ridden game designs essentially missed the point (and anyway were too complicated and boring). What he wanted was a system that could take into account anything the players thought was relevant, including intangible elements such as culture, beliefs, and perceptions of themselves. Taking as his starting point the work of the philosopher Emmanuel Kant, Chris began to develop a "matrix" of cue words that would form the framework for his "model". To this he added George Hegel's idea that argument and counter-argument (thesis and antithesis) lead to a synthesis or consensus of ideas. Thus the basic idea of the Matrix Game was formulated. Over the years the actual "matrix" of cue words has been dropped, but the name has stuck. Like all good ideas, the Matrix Game is very simple in concept, but has huge potential in that it can be adapted to fit any game setting. Matrix Games have been used by the UK MOD with the Unmanned Underwater Vehicle capability, education of Consultants in UK MOD Procurement systems and in the preparation by HQ ARRC for the deployment into Bosnia. They have even been used by the US DOD.

## Game arguments

In a Matrix Game, actions are resolved by a structured sequence of logical "arguments". Each player takes turns to make an argument, with successful arguments advancing the game, and the player's position. There are a number of ways you can do this and each has their own strengths and weaknesses, some of the most popular are:

- **The "Three Reasons" system.**
- **The "Pros and Cons" system.**
- **The "simple narrative" system.**

You just need to experiment to find which system best suits your circumstances, player audience and style of play.

## **The "Three Reasons" System**

In this system each argument is broken down into:

- **Something That Happens.**
- **Three Reasons Why or How.**

For Example:

In a Peninsular War campaign, Wellington might argue:

I shall fortify the town, and I am able to do this because:

- I have a ready source of trained manpower.
- I have an experienced Engineer in command.
- The British Government has recently sent me the money with which to pay for the work.

The arguments themselves are judged by the Umpire based on inherent likelihood, historical precedence, personal experience, and his own judgement (and quite often the other player's judgement), and a chance of success arrived at (percentage dice normally being thrown to see if the result was achieved, but you could use any combination of dice or random number generator that you like – or the Umpire decides based on military judgement and the justice of the circumstances).

The advantage of this system is that it works well where there are a number of teams of players and you have a strong central Umpire. You have to be careful, however, that other players don't interrupt or heckle with a reason why these arguments might not work - that is the role of the Umpire. Of course, if it turns out that one of the players is more knowledgeable about the situation than the Umpire, the Umpire can lose credibility and the game becomes less effective.

## **The "Pros and Cons" System**

In this system each argument is broken down into:

- **Something That Happens.**
- **A Number of Reasons Why it Might Happen.**
- **A Number of Reasons Why it Might NOT Happen.**

For Example:

In a Peninsular War campaign, Wellington might argue:

I shall fortify the town, and I am able to do this because:

- I have a ready source of trained manpower.
- I have an experienced Engineer in command.
- The British Government has recently sent me the money with which to pay for the work .
- The weather is fine so they can work interrupted.

This represents 4 x Pros - so at this point the other players are invited to point out Cons:

- The best source of trained manpower is the British regular troops, but these are on the frontier guarding the approaches. The Portuguese troops are less well trained or led so the first reason is weak.
- The weather is hot and there is little access to fresh water so there is a high chance of disease.

This represents 2 x Cons (or 1 x Con and cancels out 1 x Pro) - so at this point there is a net result of +2 Pros.

The overall argument is then adjudicated by taking 3 x D6 with a base chance of 10+ (this is an exact 50% probability - as, without any evidence for or against the outcome, the chance is even that it may or may not happen). So, in this case, we would roll 3xD6 and add 2 to the result, trying to score more than 10.

The advantage of this system is that you formalise the Pros and Cons of an argument and the role of the Umpire becomes that of ensuring that the Pros and Cons carry equal weight - perhaps making compelling reasons worth two Pros and two or three weaker reasons against only worth one Con. You need to ensure you don't end up with a list of trivial reasons or the player re-stating a reason already accepted in a slightly different way in a desperate attempt to gain points. One very useful product of this system is that it provides reasons for failure should the dice roll not succeed. In this case the two major failure outcomes would be shoddy work by lazy and untrained conscripts or work incomplete due to disease reducing the number of personnel. You can also more easily run the game with very knowledgeable players.

Personally, I like to have a "narrative bias" in the games I run, making the base success chance of 7+ on 2 x D6 (which is a 58% chance). This also has a significant increase / decrease in success probabilities for each point, which I use to encourage players to come up with a few good reasons, rather than a laundry list of lots of trivial ones.

This system is also very good with students when considering tactical problems in a syndicate wargame and I would recommend it as the most preferred way of adjudicating Matrix Games.

### **The "Simple Narrative" System**

In this system an argument simply consists of a narrative that advances the player's position in the game. The player states what happens next in the evolving story that is the current situation. The chances of success or failure and exactly what those results look like are judged by an Umpire or, more usually, by another player taking it in turns.

The advantage of this system is that it is extremely simple and accessible to players of all ages and abilities. The disadvantage is that it lacks structure and, if you get the players to assign the chance of success, you could get inconsistent and arbitrary results.

## Notes about arguments

The important thing to remember in a Matrix game is that arguments can be made about anything that is relevant to the scenario. You can argue about your own troops or about the enemy, the existence of people, places, things or events, the political leadership back home, the weather, plague, disease, public opinion, and you can even argue for changes in whatever rules you are using. With a bit of imagination, common sense and rational thinking, it is possible to present persuasive arguments as to what should happen in any scenario - from traditional military campaigns to the strange world of defence procurement.

When an argument succeeds it remains in effect until another argument stops it. This means that if you are Napoleon and succeed in arguing that you march on Moscow, you will continue to move forward, every turn, until you get there - unless of course someone argues that you don't...

*Optional Rule: If your argument fails to succeed, you get a "Fail Chit". This is retained and can be used at a later stage in the game to re-roll your dice (if the score wasn't what you wanted). This helps balance the game and prevent an unlucky player getting placed at a big disadvantage early in the game and being demoralised.*

If two arguments are in direct opposition ("This happens" - "No it doesn't") they represent a Logical Inconsistency since they cannot both be true. The earlier argument has already happened, so it is impossible for it not to have happened. The later player may argue that the event is reversed, but this tends to make for a poor narrative in the game and should be discouraged (see Playing Tips below).

## Resolving Conflicts

If two sides are placed in direct Conflict, they resolve the outcome by making additional arguments. The players both make arguments as to the outcome of the Conflict situation they are in, and the strength of the arguments is decided upon by the Umpire. I usually allow the player with an advantage to choose who should go first (no Conflict situations are every really equal - but if you felt they were, you could make the players write their arguments down in secret).

They then both roll the dice, together, to see who succeeds. In a Conflict situation, one side must succeed and one side must fail. If both succeed, or both fail, they must both roll again, and again, until one succeeds and the other fails.

### For Example:

So if one player makes an argument that he is attacking the town with his troops and the other player makes an argument that he is improving the defences, the arguments are judged normally. If the attack argument fails, the attack does not take place at that time, and there is no conflict. If instead one player argued he was attacking, and the other player argued that the attacker ran away, it would be a Logical Inconsistency (since they both can't be true) and would be resolved in turn order.

If the attack argument succeeds, a Conflict situation will be inevitable, but if the defender's argument about improving the defences succeeds, he might have an advantage in the ensuing battle. Let's say that his argument does not succeed because the Umpire judged that he really didn't have sufficient time to get the work done, made the argument Weak, and it failed.

The attacking player elects to go first and argues that he captures the town. The other player argues that he is repulsed with heavy losses. They then both dice to see who wins, with the likelihood that the defender will have to roll higher, because the town's defences were not what they could have been.

### **Comments on Resolving Conflicts**

This may seem a little arbitrary and all dependent on a good Umpire but, in practice, it works very well. When a player makes a particularly good argument it is obvious, normally from the rueful grins and grudging nods of the opposition, that he will have a good chance of succeeding.

### **Playing Tips**

Some players get caught in the Logical Inconsistency trap by arguing directly against another player who has already had a successful argument. This puts them at a disadvantage because, not only has their argument got to succeed, but they then have to roll off against the other player. It is far better to be a little more subtle. If he succeeds in arguing that he attacks you, you might argue that the attack does indeed take place, but was ill-timed and badly co-ordinated - which might place you in an advantage in the resulting battle.

It helps the players to insist on an argument always failing if you roll very poorly . Nothing is ever certain, and the player can look on it as not necessarily a total failure, but simply that it didn't happen *at that time*. It might happen later, if they argue again.

Conversely, you will need to veto stupid or trivial arguments. I simply say that I don't believe the argument is realistic and give them a chance to come up with something else.

### **Secret arguments**

There will be some cases where you want to hide from the other players the thing you want to argue about. It could be that you have booby trapped a piece of equipment you think your opponent will use, or that you have swapped the vital blueprints for a set of fake ones in case the safe is broken into. In this case you simply write down your argument on a piece of paper, and present it to the Umpire announcing to the other players that you are making a secret argument. The Umpire will make a judgment and you will roll the dice normally, but the other players have no idea what it is about.

You should be careful, however, that the players don't make too many secret arguments. This can ruin the game's atmosphere and reduce the focus, so that the game drags on unnecessarily. They must only be permitted when they refer to quite specific things or events. An argument about gathering information from a spy, in most games, will be quite a generic argument and should be argued openly. Similarly Arguing about the placement of an IED to catch forces moving down a route should be made openly as the results will take effect the same turn. It is only really for secret things you need to establish several turn in advance.

You may want to limit the players to only a single secret argument per game.

## **Big Projects**

Depending on the level of the game, some actions and events represent such a large investment in time and effort that they require multiple arguments in order to bring them to fruition. In a Spy Game, recruiting a spy would take a number of arguments in order to make the spy do everything you want them to. You must make the initial contact, followed by persuasion to carry out a minor act (like stealing a copy of the Pentagon telephone directory), and followed by more important spying actions (like photographing secret plans). It would be unreasonable to argue in a Spy Game that you recruit a girl from the typing pool to assassinate the head of the CIA in a single argument.

The level of the game will determine what sort of arguments are Big Projects, so in a game about Wellington's action in the Peninsular War a single argument about fortifying a town would be perfectly reasonable. In a game about individual Refugees in Bosnia, building a house might take several successful arguments. A Matrix Game can easily be at the Strategic level involving the actions of Governments and Countries; or equally at the Individual level involving the actions of you and your close friends.

As a rule of thumb, a Big Project should take no more than 3 successful arguments; otherwise the game is dominated too much by a single event. You should also remember the principal that once an argument has started an ongoing action, it will continue until another argument stops it.

This means that the 3 stages in, for example, building a house could logically be:

- Acquiring the funds (Can I get a mortgage?).
- Starting to build the house (When will the right builder be available?).
- Completing the building of the house (Are they ever going to finish it?).

## **Killing arguments**

It often arises in Matrix Games where one of the players argues that something happens to kill off one of the other player characters. This is, of course, permitted as you can argue about anything in a Matrix Game, and it will be assessed like any other argument. It may well be less likely to succeed as the player characters in the game are usually chosen from the survivors of a particular historical event, but it is not impossible - nor should it be.

If a character is killed off in a game, however, it does not prevent the player from continuing to make arguments.

## **Player Roles and the Level of the Game**

When you are designing a Matrix Game it is worth thinking about the level at which the player's roles will be operating in the game. It is usually better, and produces a more balanced game, when the level on which the player roles are operating are broadly similar. It would be difficult to get a balanced game if 3 of the players are playing Generals in command of vast Armies, and another player is playing a simple individual soldier.

## **Levels of Protection and Hidden Things**

At the start of a game there are certain things that are not readily accessible to some of the player characters. For example, in a Cyber-Security Game the secret plans for a new submarine would be heavily protected. Equally, in an X-Files game, the location of the secret government base would be carefully concealed.

Things that are hidden or secret require a successful argument merely to find them. Things that are protected will require successful arguments to overcome the different levels of protection. A secret government base may be declared by the Umpire to have 3 levels of protection: its hidden location, its boundary fence, and the security guards, all of which must be overcome by successful arguments before the base can be penetrated.

## **Having Battles and Fighting**

Many players feel uneasy about the concept of the result of a single argument (and dice roll) deciding the outcome of a battle or a fight. This is natural, but they should remember that the Matrix Game is about the entire campaign and it is the results of many battles or fights, rather than a single one, that is important.

It is up to the umpire to decide exactly what the outcome of the battle or fight was. He will make a judgement, depending on the strength of the arguments and the difference in the score on the two dice rolls, as to how heavy the defeat was or just how narrow was the margin of victory. If the outcome was very close, the loser may have an opportunity to withdraw in his next turn with most of his forces intact.

## **More information**

More information and examples of recreational Matrix Games can be found at: <http://www.mapsymbols.com/wdmatrix.html> .

The original Chris Engle Matrix Game site is here: <http://hamsterpress.net/> .

A very good website that has developed the Pros and Cons system: "The Open Ended Machine" is here: <http://theopenendedmachine.blogspot.co.uk/>.

# A Wicked Problem: The Turkey/Syria Refugee Crisis

by Tim Price

Dated: 19 Jul 2013.

## Introduction.

### Turkey-Syria border: A mounting crisis

As Syrian refugees continue to pour into Turkey, fleeing an escalating civil war, Turkey's generous 'open door policy' is coming under pressure. In Turkey last week, Government officials and civil society representatives appealed to UK Government officials about the impending crisis due to Syrian refugees and about the increasing pressures on Turkey's political, economic and security structures. Currently, Turkey is dealing with refugee numbers approaching a million. As of mid-June 2013, over 300,000 of them were housed in twenty one over-crowded refugee camps. Another nearly 390,000 refugees live outside these camps while about 250,000 internally displaced Syrians are reported to be in a number of make-shift refugee camps on the Syrian side of the border, waiting to be admitted into Turkey. Recent concerns are that Syrian forces are being joined by other regional forces to further pressurise border areas. Recent disturbances in Turkey have drawn focus internally and created a critical need for military aid.

### Social unrest and terrorism

Syria's sectarian problems are creating huge internal tensions in Turkey. In Syria members of Assad's Alawis sect, who have backed the president, are blamed by many from the Sunni Muslim majority for the regime's violence. In Antakya, the Turkish city in Hatay, many Syrian refugees are being dominated by Turkish Alawis.

"They are all terrorists" said Mehmet, an Alawi businessman, "we hate them"

In the border regions the refugees are joined now by the armed rebels given sanctuary by the Turkish government to fight Assad. Such rebels, many of whom are Islamist, have caused fear in this secular city.

"They walk around with their long beards looking like al-Qaeda," said Olgun, an Alawi doctor, "They have told some Turkish Alawis: you're next!" Many Antakyan Sunnis agree that the refugees now destabilise the region, 'Antakya has always been multi-sect: Alawis, Christians, Sunnis' explains Ahmet, a Sunni business student, 'Now people are buying guns to protect themselves. This is beginning to spread to all refugee regions.'

### Wider Turkey-Syria concerns

- Russia and Iran may now be deciding policy in Syria

- Iranian presence and consultancy in Syria
- Fears about the eventual break-up of Syria or the spillover of the conflict into other countries - notably Lebanon and Iraq - are very real.
- Turkey has requested to deploy Patriot anti-missile systems to protect its border with the unrest-torn Syria
- Worry that missiles that can destroy airliners could end up in extreme Islamists hands
- President Assad has graduated from using heavy weapons to more use of military aircraft
- Potential instability of chemical and biological weapons

#### **Roles:**

Order of Play: Rebels, Regime, Turkey, Refugees, USA/NATO and then Russia.

#### **Objectives:**

##### **Syrian Rebels.**

1. Overthrow the corrupt Assad Regime.
2. Get Western Support (or any support).
3. Get revenge on atrocities committed by the Government forces.

##### **Syrian Regime.**

1. Crush the Rebels.
2. Ensure President Assad remains in power.
3. Avoid Western Intervention.

##### **Turkey.**

1. Demonstrate that Turkey is a secular NATO partner and worthy of EU Membership.
2. Prevent the spread of Refugees.
3. Prevent ethnic and religious tensions destabilising Turkey.

### **Refugees.**

1. Get safety and security from the killing.
2. Rescue friends and family left behind.
3. Ensure the world understands the plight of the Syrian people.

### **USA/NATO.**

1. Bring stability to the Region.
2. Prevent Chemical Weapons falling into the hands of terrorists.
3. Stop the humanitarian crisis from getting worse.

### **Russia.**

1. Make sure that the Tartus Naval Base remains available to the Russian Navy.
2. Increase the spread of Russian influence in this area.
3. Resist dangerous Western interventions in other Nation's Affairs.

### **Game Length:**

The game is intended to last 6-8 turns, each being a representative month.

### **Map:**

The map used for this game is an abstracted view of the Turkish / Syrian Border Region.

### **Playing Pieces:**

**Syrian Rebel Forces:** Rebels: Aleppo, Homs, Ain Al-Dalbeh, Jarabulus, Syrian Border Area, Turkish Border Area and Wider Syria.

**Iranian Advisor:** Homs.

**Syrian Regime Forces:** Armoured Infantry: Syrian Military Base x 2, Damascus x 2 Dier Ez-Zor x 2, Wider Syria, Al Qamishi. Tanks: Syrian Military Base in Wider Syria. Bombers: Damascus. Attack Helicopters: Syrian Military Base in Wider Syria. Chemical Weapons: Syrian Military Base in Wider Syria.

**Refugees:** Refugee Camps: In Turkey, near Ain Al Dalbeh, Jarabulus and Akcakale. Refugees: In each camp. In Turkish Border Area x 2, In Syrian Border Area x 3, In Wider Syria x 2.

**Turkish Military:** Armoured Infantry: 2 in each Turkish Military Base. Acakale. Turkish Border Area x 2, Greater Turkey x 2. Tanks: Turkish Military Base x 2. Wider Turkey. Bombers: Turkish Military Base in Wider Turkey. Attack Helicopters: Turkish Military Base in Wider Turkey. Drones: Turkish Military Base in Wider Turkey. Patriot Missile Battery: Turkish Border Area.

**Russian:** Russian Marines: Tartus. Russian Surface Ships: Tartus.

**USA:** Carrier Task Group: Maritime Neighbourhood.

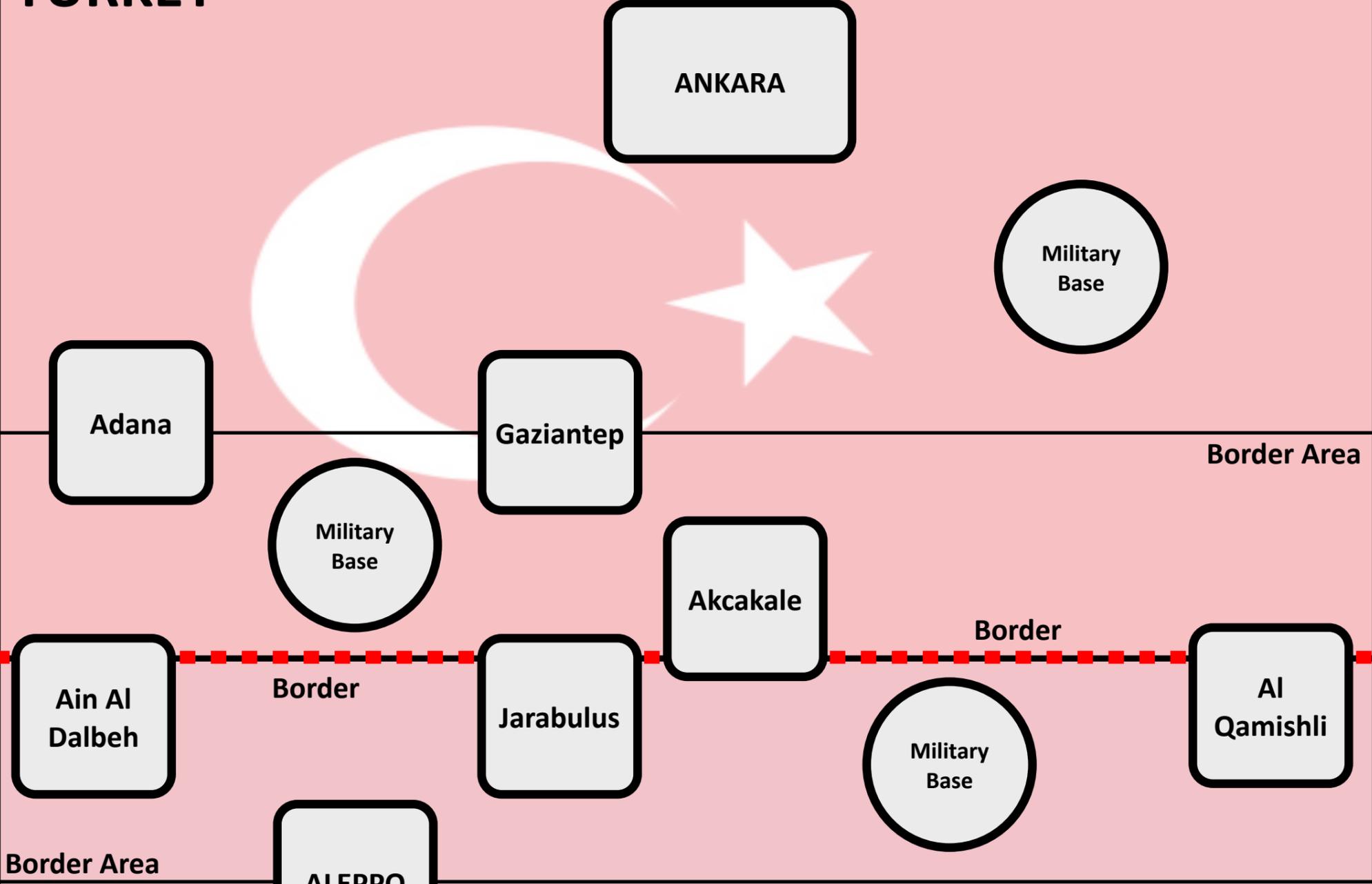
#### **Notes:**

1. Additional Forces can be generated as the result of a successful argument.
2. Movement across the border requires a successful argument.
3. The Chemical Weapons are "hidden" and "protected" at the start of the game requiring a successful argument to locate them and another argument to attack them / steal them.
4. Syrian Regular Forces are much more powerful than rebel forces.

A Wicked Problem: Turkey / Syria Refugee Crisis

TURKEY

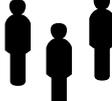
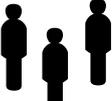
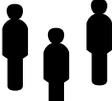
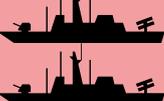
Land Neighbourhood



Maritime Neighbourhood

SYRIA

A Matrix Game by Tim Price

Turkish Tanks 	Turkish Tanks 	Turkish Troops 	Turkish Troops 	Turkish Troops 	Turkish APCs 	Turkish APCs 
Turkish APCs 	Turkish APCs 	Turkish APCs 	Turkish APCs 	Turkish APCs 	Turkish APCs 	Drone 
Refugee Camp 	Refugee Camp 	Refugee Camp 	Refugee Camp 	Refugee Camp 	UNHCR Team 	UNHCR Team 
Regime APCs 	Regime APCs 	Regime APCs 	Regime APCs 	Regime APCs 	Gunships 	Bomber 
Regime Tanks 	Regime Tanks 	Regime Tanks 	Regime APCs 	Regime APCs 	Regime APCs 	Chemical Weapons 
Gunships 	Patriot Battery 	Gunships 	Turkish Bomber 			
Refugees 	Refugees 	Refugees 	Refugees 	Refugees 	Refugees 	Refugees 
Attack 	Attack 	Refugees 	Refugees 	Iranian Advisor 	Arms Cache 	Chinese 107mm RKT 
Marines 	Ships 	Carrier Group 	NATO Troops 	Bombers 	NATO Troops 	Fighters 
Rebels 	Rebels 	Rebels 	Rebels 	Rebels 	Rebels 	Rebels 

## Syrian Rebels:

- Overthrow the corrupt Assad Regime.
- Get Western Support (or any support).
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## Syrian Regime:

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- Avoid Western Intervention.



## Turkey:

- Demonstrate that Turkey is a secular NATO partner and worthy of EU Membership.
- Prevent the spread of Refugees.
- Prevent ethnic and religious tensions destabilising Turkey.



## Refugees:

- Get safety and security from the killing.
- Rescue friends and family left behind.
- Ensure the world understands the plight of the Syrian people.



## US / NATO:

- Bring stability to the Region.
- Prevent Chemical Weapons falling into the hands of terrorists.
- Prevent a humanitarian crisis from taking place Stop the crisis from getting worse.



## Russia:

- Make sure that the Tartus Naval Base remains available to the Russian Navy.
- Increase the spread of Russian influence in this area.
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