



Defence Academy
of the United Kingdom

Wargaming

Types and Methods

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Some Basics

■ Training Systems

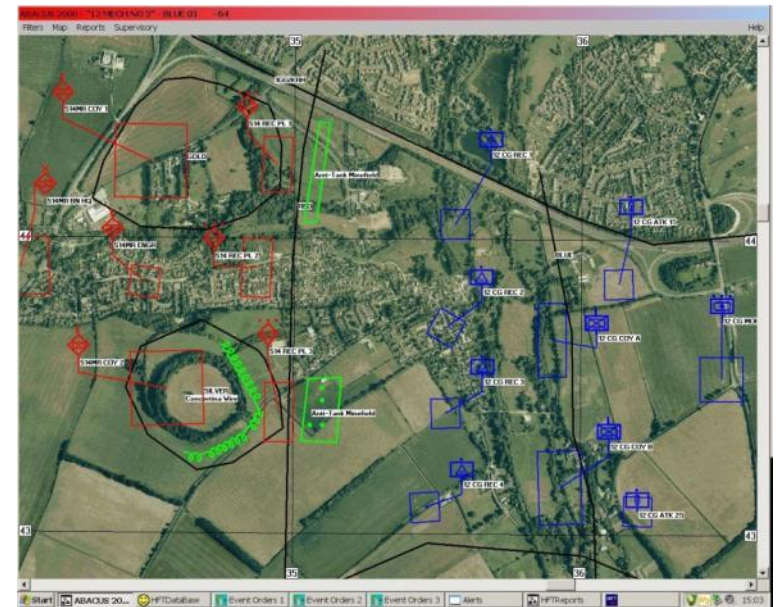
- CAST, CATT, TES.
- Procedural Training.

■ Wargaming

- Adversarial Training.
- Original Thought.

CAST

- Simulated Troops
- Simulated Environment



CATT

- Real Troops
- Simulated Equipment
- Simulated Environment



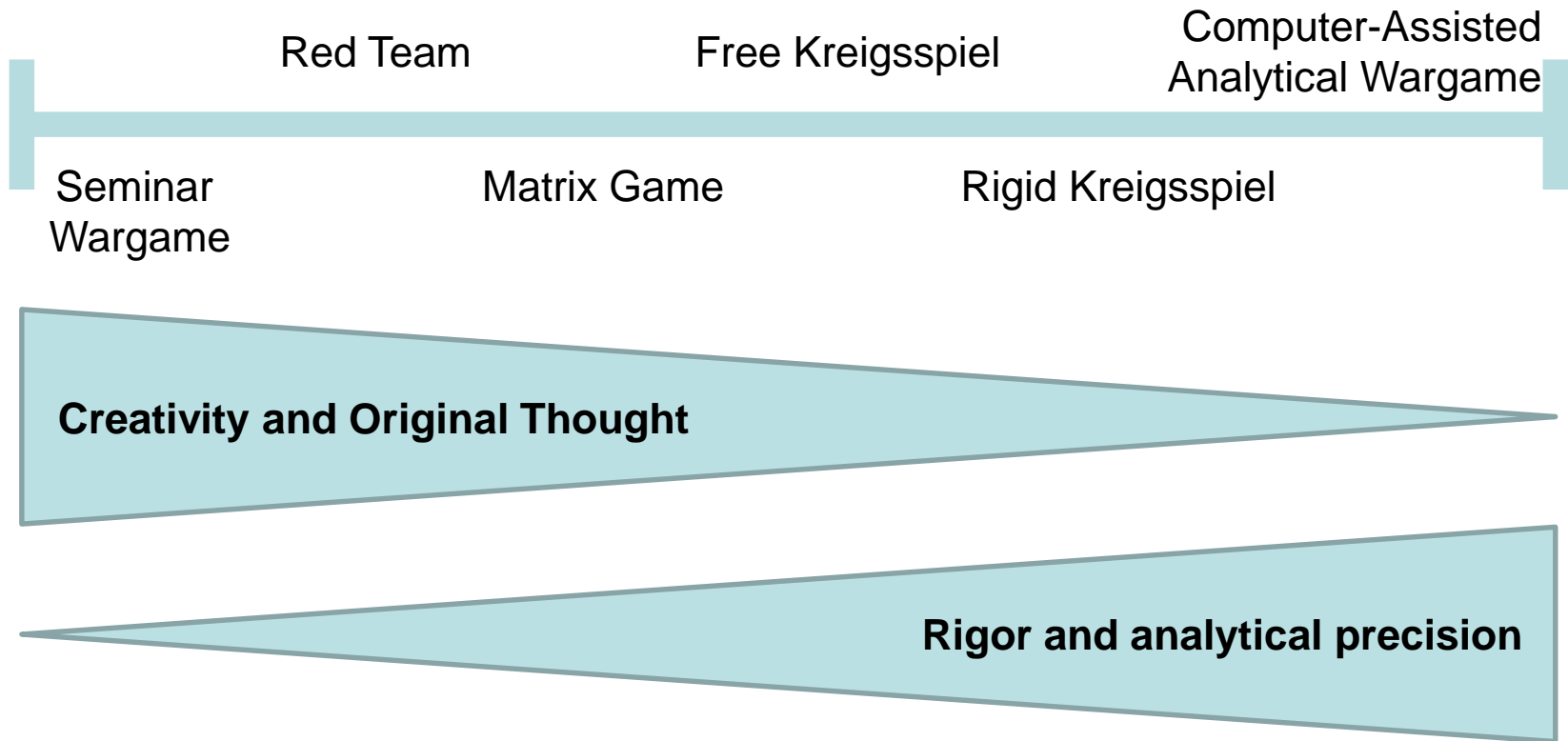
TES

- Real Troops
- Real Equipment
- Simulated Effects



What is a Wargame?

- Wargames cover a broad spectrum:



Aim and Purpose

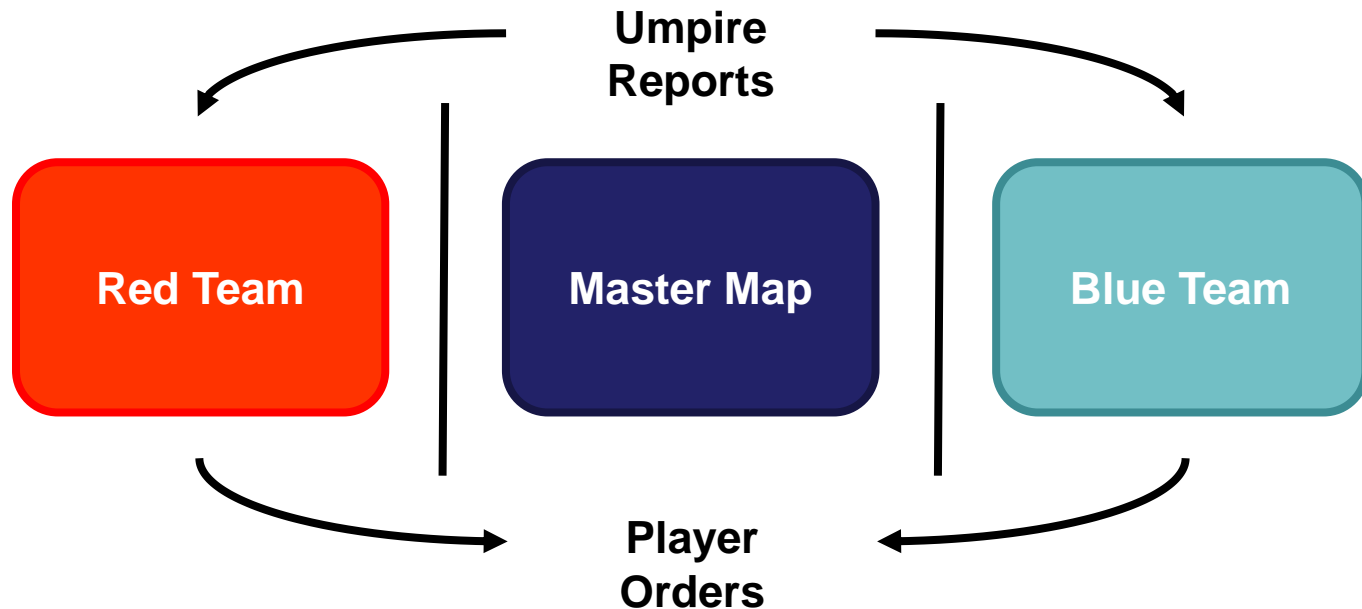
- What are we trying to achieve?

	Creating Knowledge	Conveying Knowledge	Entertainment or Team Building
Unstructured Problem	Discovery Games	Educational Games	Role-Playing Games
Structured Problem	Analytical Games	Training Games	Commercial Games

Types of Wargame

- **Open**
 - God-like overview.
 - All forces in view.
 - All rules and assumptions known to all.
- **Closed**
 - Played "blind" (Fog of War).
 - Limited information (enemy, own troops, etc).
 - You may not know all the rules, or they might be different for different sides.
- **In reality most games are on a continuum between these two characteristics.**

Standard Closed Game Layout



**Teams in separate rooms, or separated by dividers.
...or sometimes multiple teams on each side...**





































Adjudication

- **Military Judgement Panel**
- **Rigid Adjudication**
 - Deterministic
 - Stochastic
- **Combat Results Table**

Dealing with Combat

The Combat Results Table (Kriegsspiel - 1824)

TABLE I OUTCOME OF HAND-TO-HAND COMBATS

Die							Odds
I							1:1
II							3:2
III							2:1
IV							3:1
V							4:1

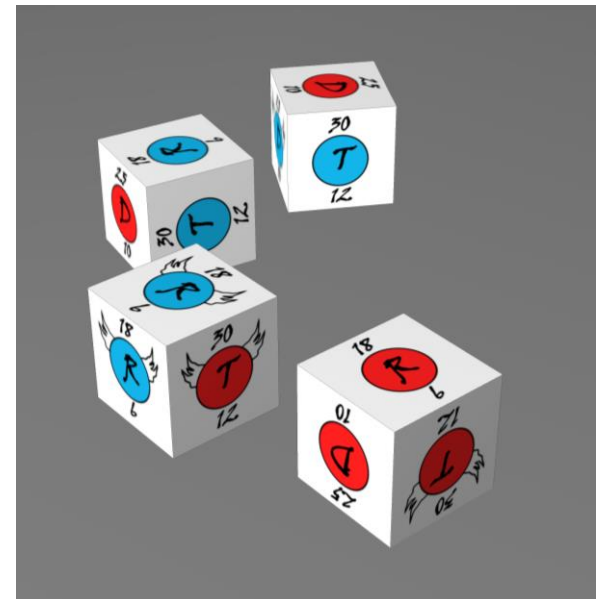
 Blue

Red 

R - repulsed

D - defeated

T - totally defeated



Dealing with Combat

The Combat Results Table (RCAT – 2014)

Die	1:3 or <		1:2		1:1		1.5:1		2:1		2.5:1		3:1		4:1		5:1		6:1 to 8:1		> 8:1	
1	75/50	F	75/50	N	75/50	N	75/75	N	50/100	W	50/100	W	25/125	W	25/150	W	0/-	D	0/-	D	0/-	D
2	100/50	F	75/50	F	75/50	N	75/50	N	75/75	N	50/75	N	50/100	W	25/125	W	25/150	W	0/-	D	0/-	D
3	100/50	F	100/50	F	75/50	F	75/50	N	75/50	N	75/75	N	50/75	N	50/100	W	25/125	W	25/150	W	0/-	D
4	100/50		100/50	F	100/50	F	75/50	F	75/50	N	75/50	N	75/75	N	50/75	N	50/100	W	25/125	W	25/-	D
5	150/25		100/50		100/50	F	100/50	F	75/50	F	75/50	N	75/50	N	75/75	N	50/75	N	50/100	W	25/150	W
6	150/25		100/50		100/50	F	100/50	F	75/50	F	75/50	N	75/50	N	75/75	N	50/75	N	50/100	W	25/150	W
7	175/25		150/25		100/50		100/50		100/50		75/50	F	75/50	N	75/50	N	75/75	N	75/75	N	25/125	W
8	200/0		175/25		150/25		100/50		100/50		100/50		75/50	F	75/50	N	75/50	N	75/75	N	50/100	W
9	225/0		200/0		175/25		150/25		100/50		100/50		100/50		75/50	F	75/50	N	75/50	N	75/75	N
10	250/0		225/0		200/0		175/25		150/25		100/50		100/50		100/50		75/50	F	75/50	F	75/75	N

Combat Factor Modifiers	Modifier
Defender in urban (only until attacker achieves a 'success' = break-in battle) or prepared defence (one only)	x 1.5
Attacker conducting opposed obstacle crossing or airborne assault	+ 2
Highly defensible terrain (HDT) if in prepared defence	x 2
Complex defensible terrain (CDT) if in prepared defence	x 3
CE multiplier	As counter
Neutralised	+ 2

Key	
x / y	Attacker / defender % of counters that receive a -25% CE 'step' loss
N	Defender is neutralised. Combat factor is + 2 and can't move, attack, Task Org, find, fortify or become overt
W	Defender withdraws one area and is also neutralised
D	Defender combat ineffective: destroyed (remove counter)
F	Defender is fixed and can't move, attack, Task Org or find

An attacker 'success' occurs and a marker placed on a result of 'N', 'W' or 'D' or if a FE is removed. Any other result is a defender success



Collateral Damage. A die roll of 10 or more results in destruction significant enough to warrant MT movement: place a CD marker
 DRMs: + 1 per 7 factors used in the attack + 2 if attacking in urban area - 2 if attacking in a rural area + 2 if using Indirect Fire in urban area

Tools

■ Dice

- Linear distributions
- Other distributions

■ Playing Cards

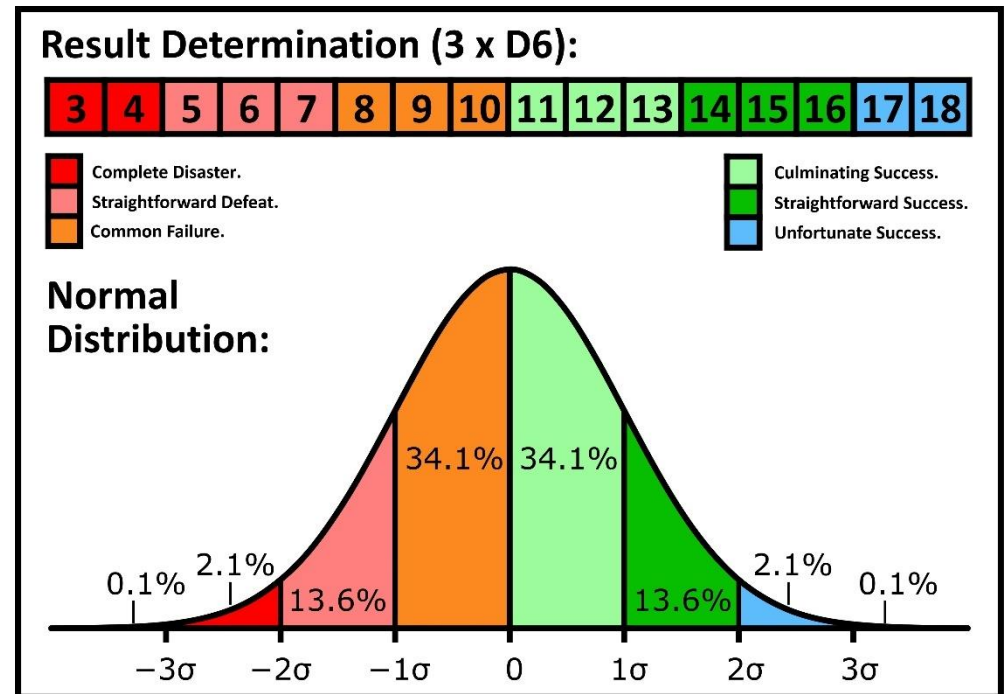
■ Event Cards

■ Result Cards

■ Look-up Tables

■ Computer

- Excel RAND function



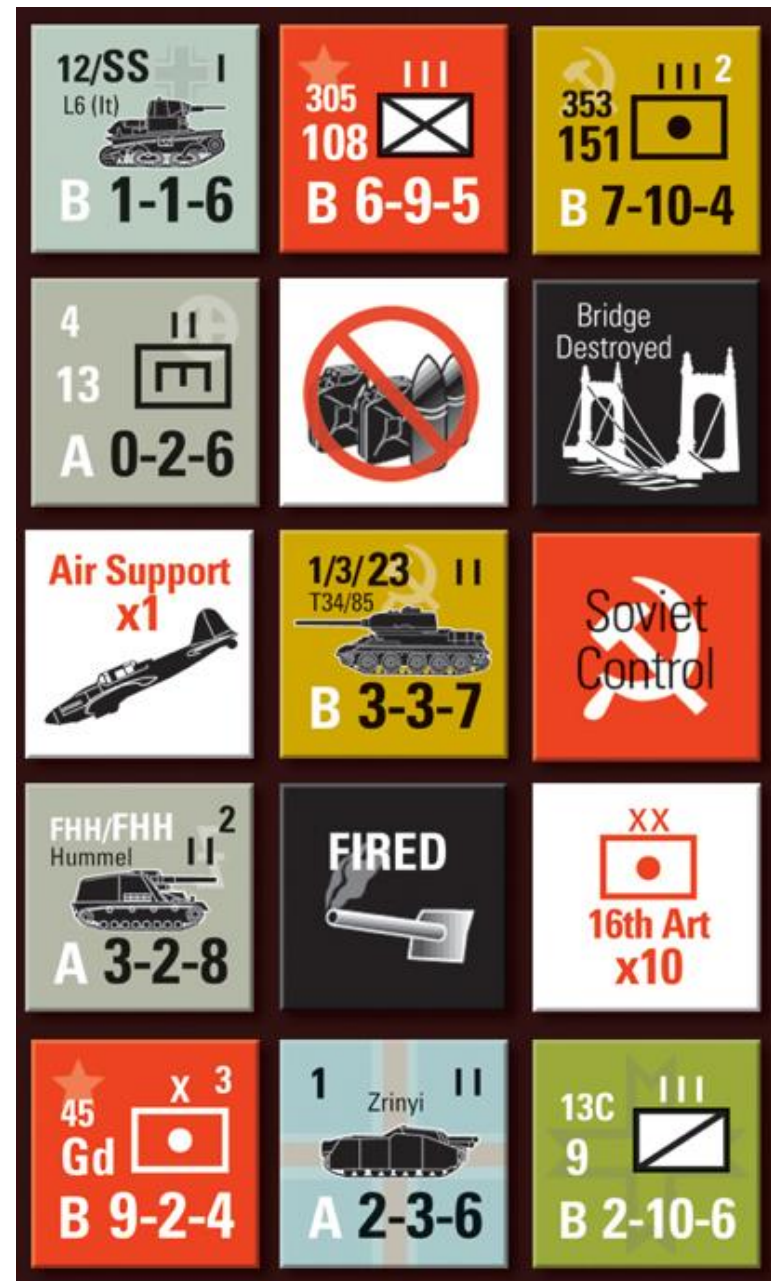
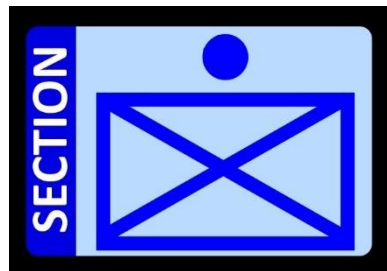
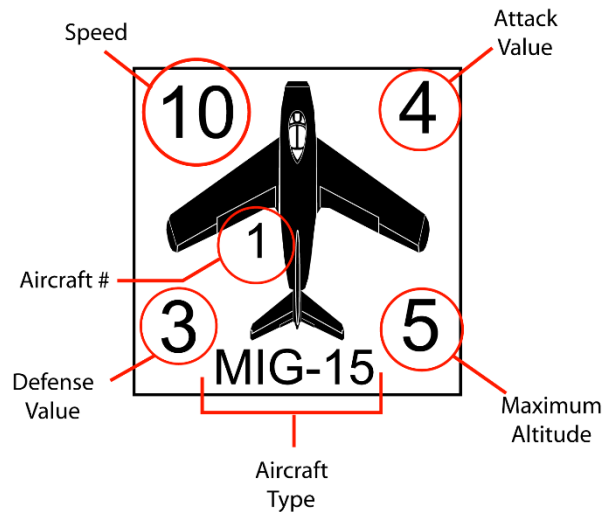
Tools

- **Maps**
 - Military Maps
 - Gridded Maps
 - Hex Maps
 - Area Maps
 - Stylised Maps
- **Sand Table / Model**
- **Computer Screen**



Tools

Counters



Computer Wargame



Types of Wargame

■ Computer Wargame

- Easily recognisable.
- Easy to make a Closed Game.
- All algorithms hidden.
- Steep learning curve unless COTS.
- Lengthy setup.
- Expensive and not very portable.
- Very inflexible.
- Fixed level of operation and resolution.
- Very difficult to represent soft issues.

Map Wargame



Types of Wargame

■ Map Wargame

- Easily recognisable and understood.
- Facilitates closed games well.
- Cheap and quick to develop (with practice).
- Relatively portable.
- Flexible (same design can be applied to multiple maps).
- Not very good for low level tactical games (LOS difficult).
- Requires a degree of abstraction.

Board Wargame



Types of Wargame

■ Board Wargame

- Easily recognisable and understood.
- Familiar to recreational gamers.
- Tends towards Open games.
- Highly structured and abstract (allowing focus on a small number of key elements).
- Relatively portable.
- Specialised.
- Good as an introductory technique.

Seminar Wargame



Types of Wargame

- **Command Decision and Planning Wargame (Seminar).**
 - Covers a wide range of structured formats such as seminar or committee games.
 - Highly accessible (no game rules to absorb).
 - Mainly about communication and decisions.
 - Cheap and fast to develop.
 - Good for testing assumptions.
 - Less good for combat situations.

"Sand Table" Wargame



Types of Wargame

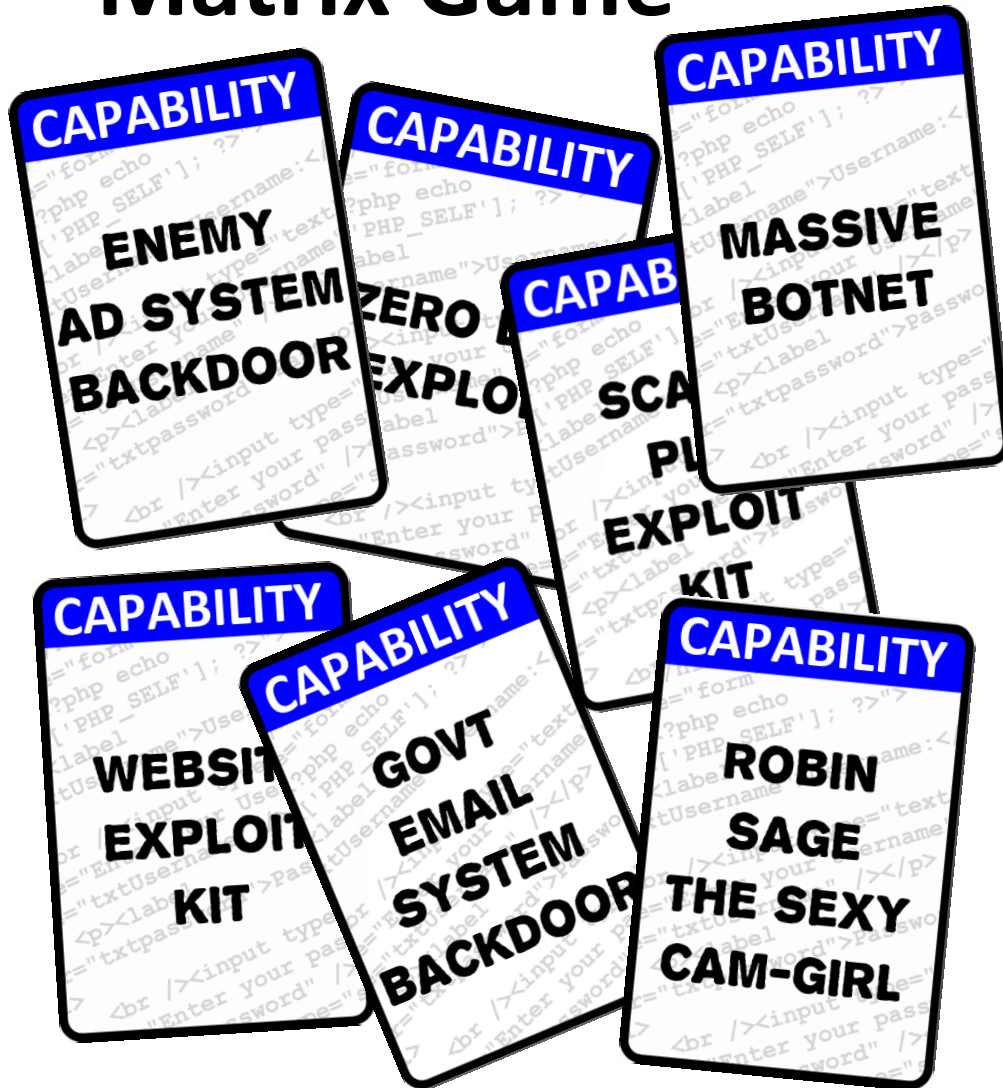
■ "Sand Table" Wargame

- Use of 3D models to represent tactical situation.
- Requires construction of the environment.
- Good for low level tactical actions.
- Good for teaching equipment recognition and capabilities.
- Competing with FPS Computer simulations.
- Material intensive and not very portable.
- Can be mistaken for "playing with toy soldiers".

ISIS CRISIS



Matrix Game



 Defence Academy
Of the United Kingdom

EXERCISE ASHKENAZI REACH

Cyber Operational Awareness (Core) Course

Technology School
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Types of Wargame

■ "Soft Issues" Wargame

- Multi-party games with many different actors.
 - Requires highly skilled facilitation.
 - Most useful in areas of uncertainty, low specific detail and strong political content.
 - Highly portable.
 - Highly flexible.
 - Requires subtle qualitative analysis.
-
- Matrix Games, Consensual Analysis Games, Role-Play Games.

Commercial Games



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Improving NATO Support to Future Air Advisor Operations

NATO has stated that it is committed to providing long-term political and practical support to Afghanistan via a new post-2014 mission to train, advise and assist the Afghan National Security Forces. Additionally, the 2010 NATO Strategic Concept highlighted the need to develop the capability to train and develop local forces in crisis zones, so that local authorities are able as quickly as possible, to maintain security without international assistance. ...

Types of Wargame

■ COTS Wargame

- Can be a useful component of a wider Wargame.
- Can be an effective teaching aid.
- No design effort required.
- Relatively cheap to acquire.
- Fixed rules and processes.
- Some can be inaccessible for beginners.
- Inflexible.

A distant plain

Insurgency in Afghanistan

GAME DESIGN
Volko Ruhnke and Brian Train

COIN Series, Volume III

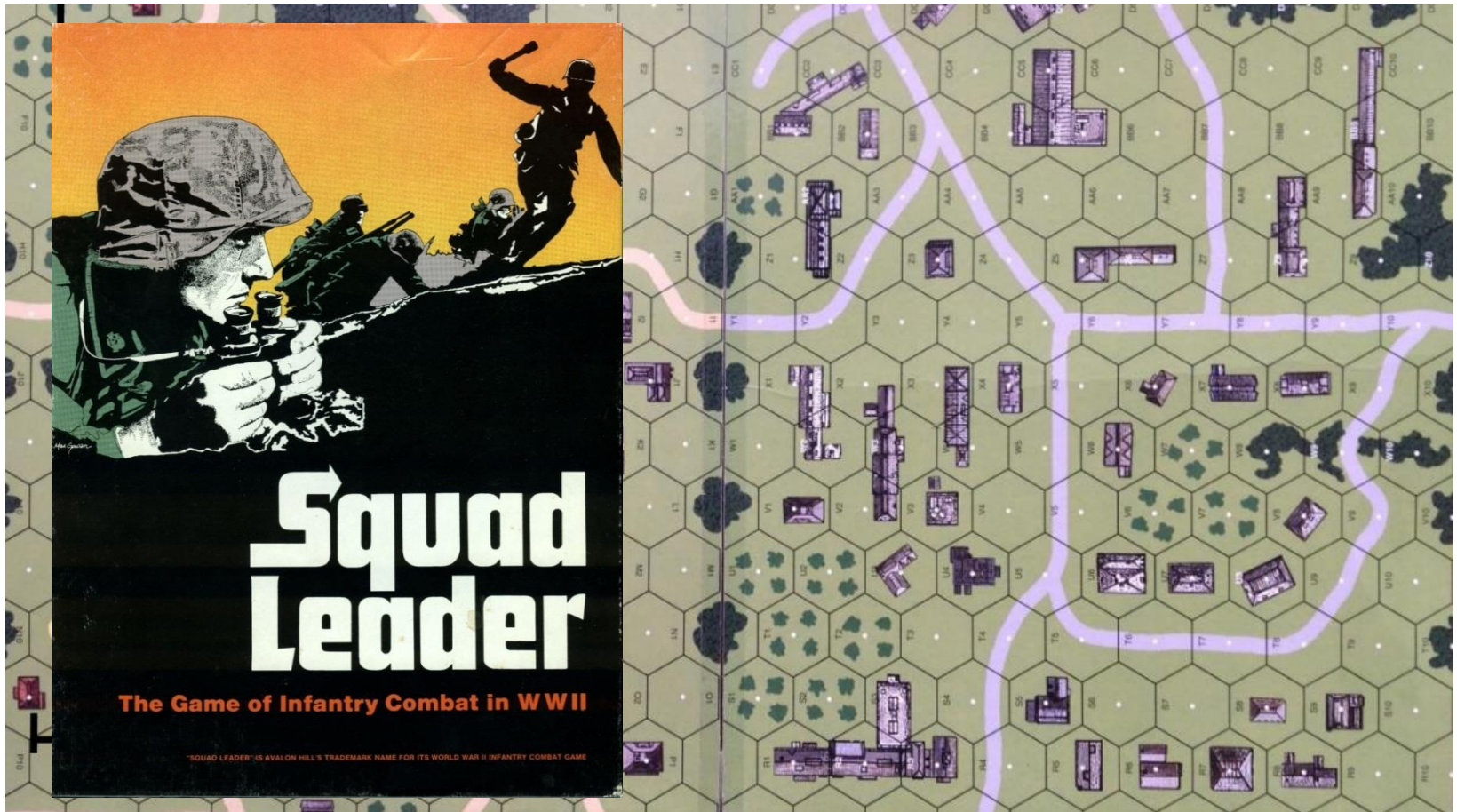


GMT Games LLC ©2013

By Rodger B. MacGowan ©2013

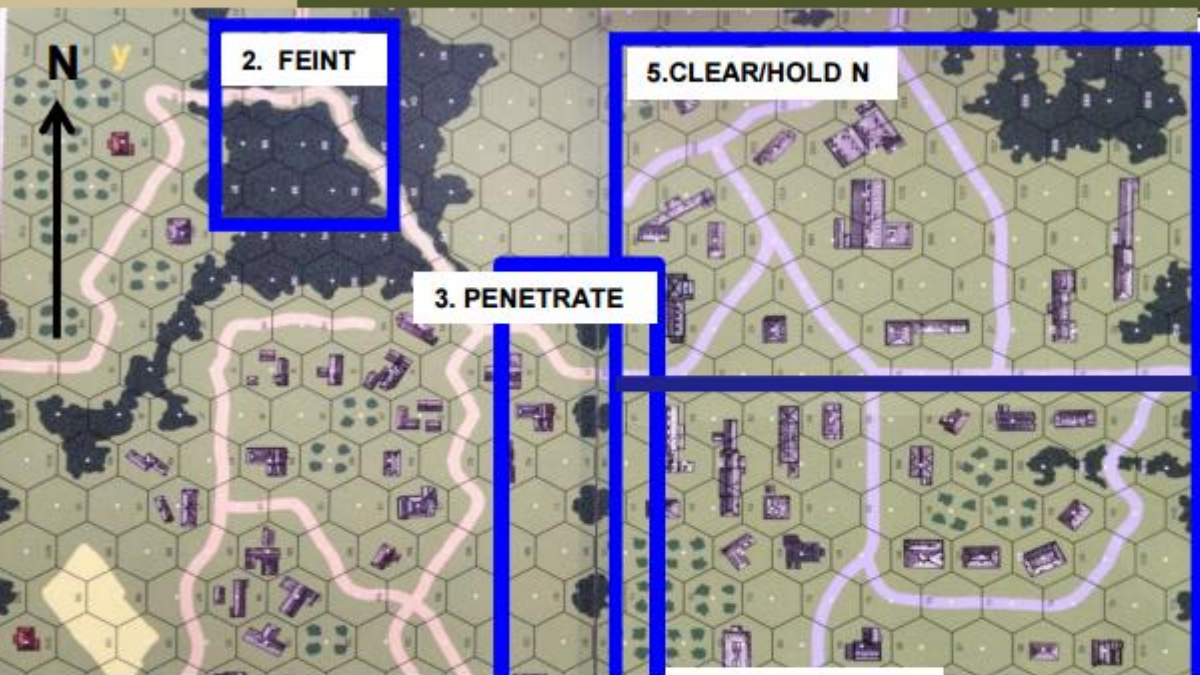


1 Royal Irish – Squad Leader





Allied: Intent Schematic



Ser	Effect	Purpose
1	FIND	ID EF fwd posns and MDAs IOT facilitate FF manoeuvre
2	FEINT	DECEIVE EF IOT FIX N EF Group
3	PENETRATE	IOT DISRUPT and CLEAR EF ID'd in key terrain and SECURE foothold into Central AACHEN
4	CLEAR/HOLD S	Secure buildings in Central AACHEN DENY EF FoM
5	CLEAR/HOLD N	Secure N avenues of approach in N AACHEN IOT DENY EF FoM

MSN: HOLD AACHEN (25 buildings)
Intent: Conduct FEINT along N axis DECEIVING EF. Concentrate firepower to PENETRATE key terrain along central axis CLEARing advanced EF. Manoeuvre along S axis and gain foothold enabling CLEAR/HOLD of S AACHEN.

Main Effort: SEIZE S
COA Direction: PENETRATE along central
 AA BPT EXPLOIT N and S flanks. CLEAR and
 HOLD Blds in S sector. BPT DISRUPT EF
 Catk

Surprise	Security	Seize Key Terrain	Concentration of Fire	Manoeuvre	Exploit Success
<ul style="list-style-type: none"> Covered approaches through buildings FEINT to enhance surprise 	<ul style="list-style-type: none"> Maximize fire base to NEUTRALISE defenders Covered approaches 	<ul style="list-style-type: none"> Groupings given clear objectives and LOEs 	<ul style="list-style-type: none"> Central firebase to enable PENETRATE/CLEAR of KT SW to enable manoeuvre FT used in close combat 	<ul style="list-style-type: none"> Rapid rate of advance to push back defenders. BPT to take risk to maintain momentum 	<ul style="list-style-type: none"> Reserve forces to reinforce success

Design Types

- In reality a game design can feature elements of several of these broad types.
- Business Games tend to be a mixture of seminar wargame and role play (with somewhat less combat resolution).



Libya Problem

- Short notice.
- Unforeseen.
- Scale and Scope?
- Time and Money.



RCAT

- Rapid Campaign Analysis Toolset (RCAT).
- DSTL sponsored and Validated.
- Manual Wargame.

"We wish we'd had such a system in Ascension with us sitting around the map table thrashing through possible COAs..."

Maj Gen Julian Thompson &
Cdre Michael Clapp



Example

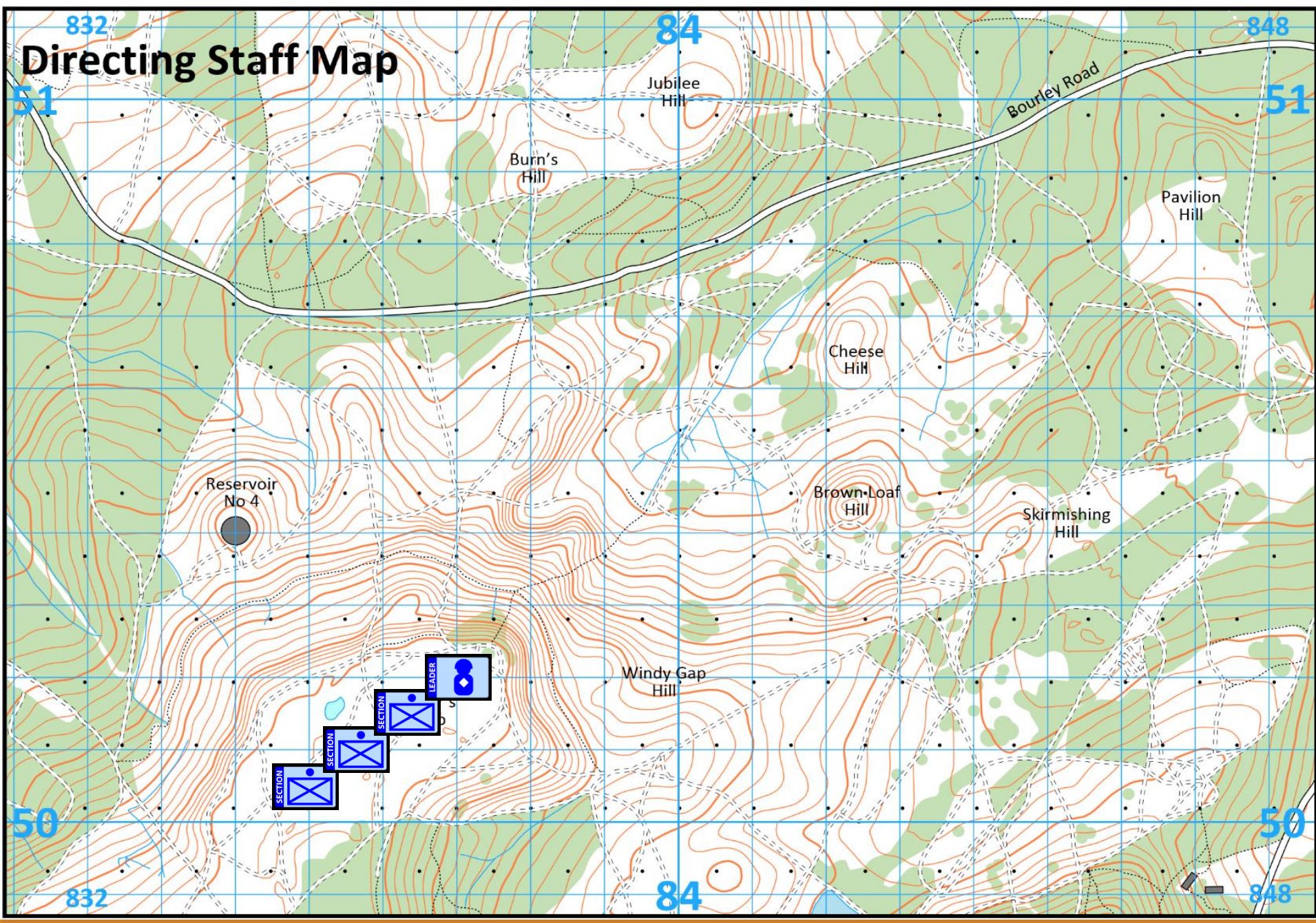
Sandhurst Wargame.

- Commandant's directive.
- Re-introduce Wargaming to RMAS.
- Encourage "manoeuvrist thinking".
- Part of the Standard Military Course.
 - Not "recreational".
- Lecture.
- Wargame.
- Instruction to Staff.

Example

- **What is the purpose?**
 - Creating knowledge?
 - Conveying Knowledge?
 - Entertainment?
- **Who is it for?**
 - The Commandant?
 - The Directing Staff?
 - The students?
- **Who is going to participate?**
 - The students? The Staff? Me?
 - Experience and knowledge?
- **Constraints?**
 - When, where and for how long?
 - How long have I got?
- **Problems?**
 - Something unfamiliar?
 - Style and content? What type of wargame?

Directing Staff Map





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