

Games in Teaching

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“A motorcycle ride though an art gallery”

Mark Herman, Zones of Control, MIT, 2016

“A critical problem with using games in education at any level is that most educators are not gamers.”

Students have a limited range of experience with games

One Page Wargames

- Mid Term, Group work

Model UN/Crisis simulations

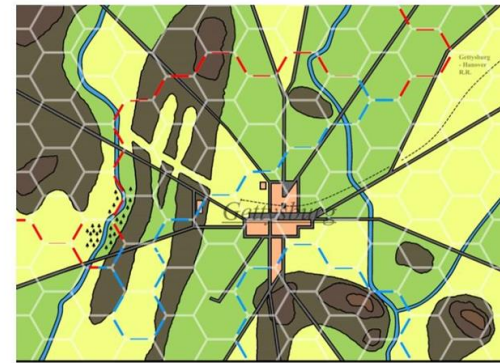
- End of term, 2 or 3 classes

Board & Card Game Designs
Twine Games

Wargames Unplugged:

"I suppose it'll be another book review just like all the other options?"

Anonymous Student



The Battle of Gettysburg : 1400 1st Jul

Order of Battle

The United States of America
General Meade leading the Army of the Potomac

vs.

The Confederate States
General Lee leading the Army

Set Up: Each counter is allocated a specific number that corresponds to the numbered hex grid. These are the designated starting positions.

Counters: Values on counters are combat strength and movement points.

Terrain: Clear hex: Costs 1 movement point
No effect on combat
Wood hex: Entry prohibited
Combat, blocking terrain.
Hill hex: Costs two points
Combat no effect
River hex: Movement two points
Town hex: Movement one point.


Sequence of Play: Sides alternate play. Each player's turn consists of two phases; a movement phase and a combat phase.

Movement Phase: Player can move as many or as few units as they like, according to movement points, in any direction desired. The six surrounding hexes of a unit are its zone of control. All units that enter an enemy zone of control must stop and attack during their combat phase. Movement phase finishes once a Player has announced they've moved their desired pieces and begins attacking.

Combat Phase: The combat strength value of a unit is its basic power to attack and defend during the combat phase, and it's indivisible. All units in an enemy's zone of control must attack during the combat phase. Artillery units may make a bombardment attack against an enemy unit two hexes away. An artillery unit that is not adjacent to the unit that it's attacking is not affected by adverse combat results. All combat is resolved using the Combat Results Table. The attacker totals the combat strengths of their attacking units and compares them against the total combat strengths of the units attacked (the combat ratio). The player then rolls the die and the number is cross-indexed with the combat ratio to find the result. In case the combat ratio isn't found on the combat result table, the ratio is altered to match one on the chart that benefits the defender.

Victory conditions: The winner is the first player who gains forty Enemy Strength points.

Special Rules: The Allies must move in Southeastern direction. The Persians have to move around or go over the Janus-hill. Before moving, the Allies must roll the die. If they roll a 1, 3 or 6 the Allies may move only 50% of their troops (9 counters).



Essay v Game v Game Design

Essay:

We know who did it!

only interested in events that led to the outcome

Read the question

Use the booklist

Wikipedia?

write something that fits the external shape of an essay

or get one of last years

or put it into ChatGPT

Game Play

Dawn, June 18th, 1815

consider all options



Game Design

Research the material

Understand the systems

Blooms Taxonomy	Essay	Wargame Design	Grading/Rubrics
Evaluation	Historical debates, Hist Understanding,	Design notes	Reflection on the nature of the game and how it represents real events
Synthesis		Games rules in total, Special rules, victory conditions	Game mechanics working as a linked system
Analysis	Linkages, relationships	Game rules – cases (move, fire etc)	Simple game processes on a case by case basis
Application		Design counters, map	Meaningful representation of elements
Comprehension	Significant facts?	Table of Organisation & Equipment,	Relations and organisation of participants
Knowledge	facts	Order Of Battle, Map	Completeness of data

Complicated v Complex

- Complicated



- Complex



Reductionism v emergence (Joe Norman)

Need for interdisciplinarity

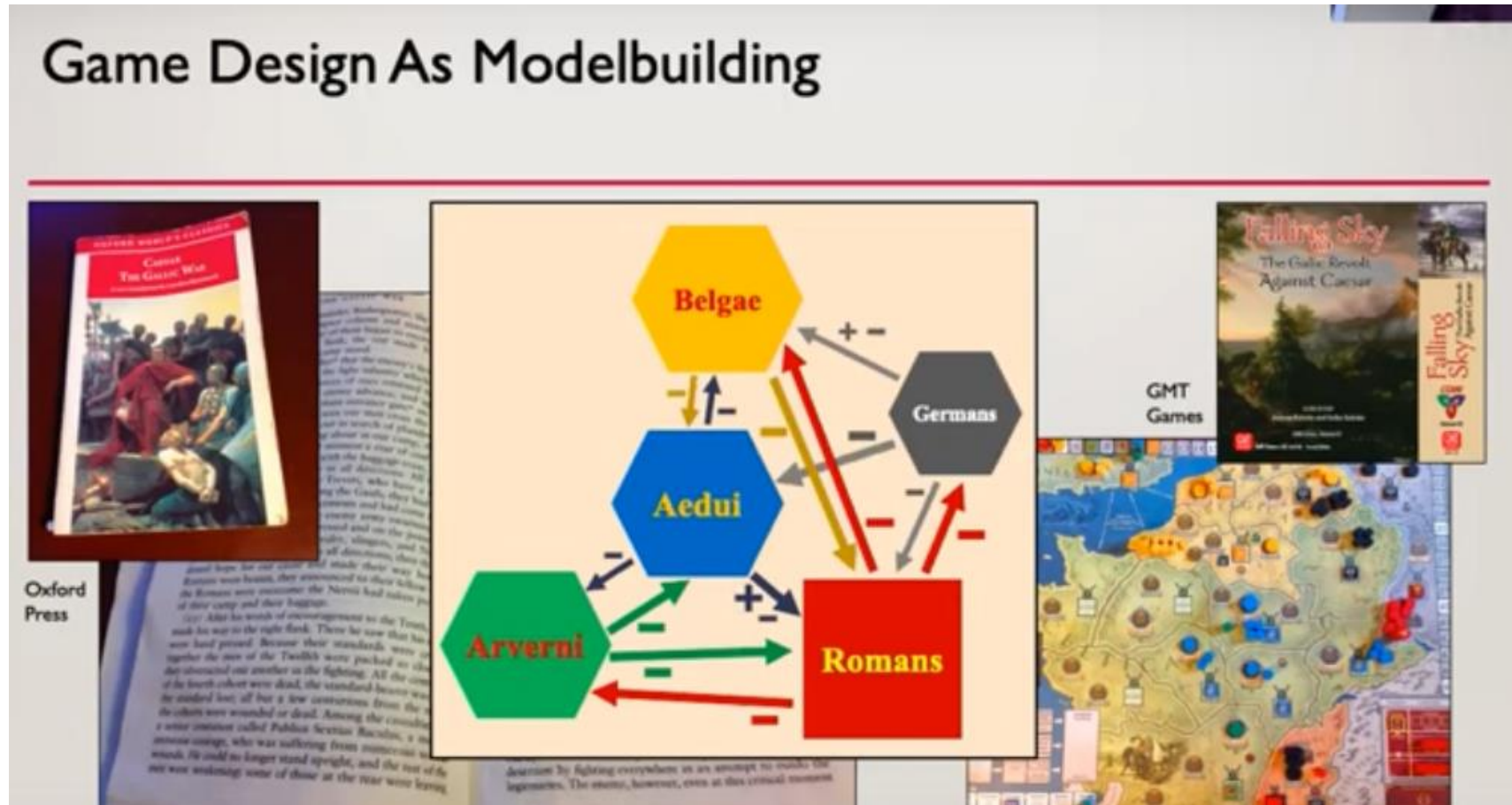
Evolution

- 1970-2000
- Wargames
 - Limited hobby market
 - “99% of people don’t understand wargames”
 - High cognitive load
 - Move from ‘general staff’ history to more abstract (morale, cohesion, command)
- Popular Games – limited range
 - Monopoly
 - Game of Life



- Post 2000 (post 2010?)
 - Card driven (limits on command)
 - Political-Military games
 - Votes for Women, Terraforming Mars, Mr President
 - Zenobia Awards etc
- Popular
 - More complex (Pandemic, Ticket to Ride, Smallworld, Carcassonne, Catan, Magic)
 - Transmedia (digital and analogue)
 - Dune – book, film, boardgame, RPG

Falling Skies (Volker Ruhe, GMT games)



https://www.youtube.com/watch?v=FbfLZE_NTRI&list=PPSV

Falling Skies – winning (c GMT Games)

7.2 Exceeding Victory Threshold

Check victory upon each Victory Phase (6.1), comparing the various victory totals (in some cases, victory markers, 1.9) to the thresholds noted on the Faction foldouts or below. Victory conditions are—

- **Romans:** Subdued plus Dispersed plus Roman Allied Tribes exceeds 15.
- **Arverni:** Off-map Legions (Fallen, plus on the Legions Track, plus removed by Event) exceed six and Arverni Allied Tribes plus Arverni Citadels exceeds eight.
- **Aedui:** Aedui Allied Tribes plus Citadels exceeds those of each other Faction (Gallic, Germanic, and Roman; do not count Forts).
- **Belgae:** Total Belgic Control Value (Tribe spaces under Belgic Control, regardless of Allies, and neither Dispersed nor Suebi) plus Belgic Allies and Citadels exceeds 15.

Matrix Games and Estimative Probability

Draws on

- Delphi Method
- Crowdsourcing
- BOGSAT

Matrix Games

- In this system, each argument is broken down into:
- The active Players states: Something That Happens and a number of Reasons Why it Might Happen (Pros).
- • The other Players can then state: A number of Reasons Why Might NOT Happen (if they can think of any) (Cons).

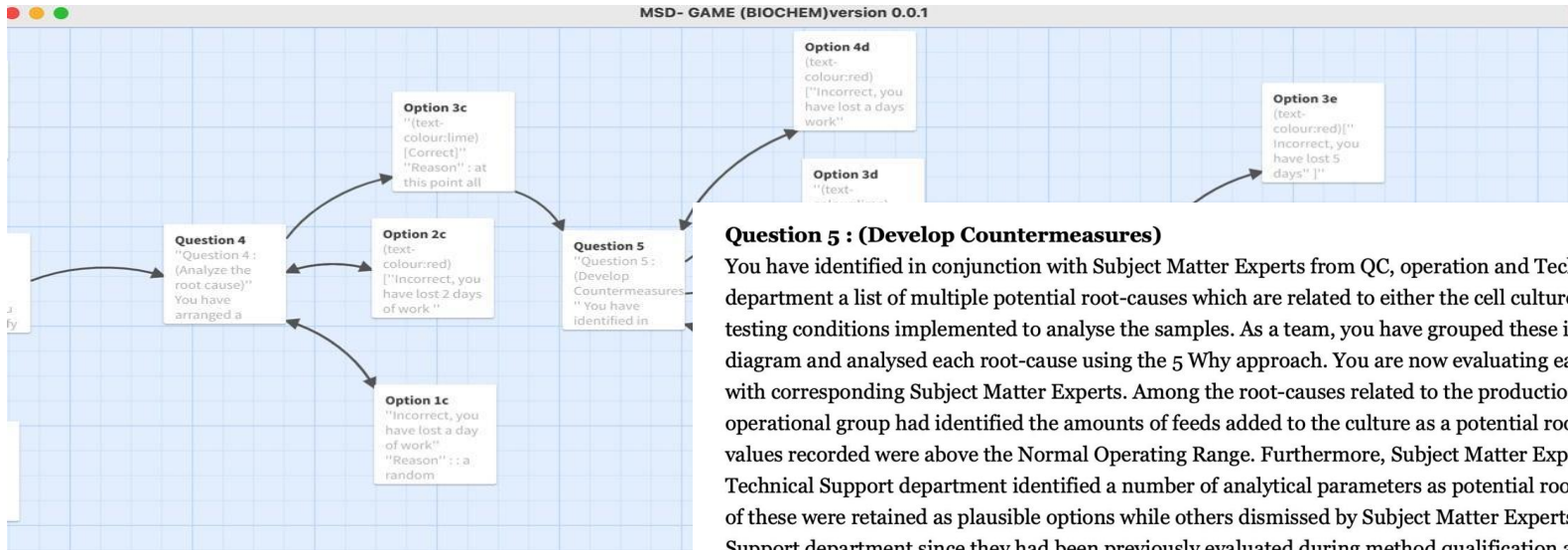
Estimative Probability

Matrix Games and Estimative Probability

Table 1: Kent's "words of estimative probability"[\[2\]](#)

Certain	100%	Give or take 0%
<i>The general area of possibility</i>		
Almost certain	93%	Give or take about 6%
Probable	75%	Give or take about 12%
Chances about even	50%	Give or take about 10%
Probably not	30%	Give or take about 10%
Almost certainly not	7%	Give or take about 5%
Impossible	0	Give or take 0%

Narrative Games: Twine



Question 5 : (Develop Countermeasures)

You have identified in conjunction with Subject Matter Experts from QC, operation and Technical Support department a list of multiple potential root-causes which are related to either the cell culture process testing conditions implemented to analyse the samples. As a team, you have grouped these in a Fishbone diagram and analysed each root-cause using the 5 Why approach. You are now evaluating each root-cause with corresponding Subject Matter Experts. Among the root-causes related to the production process, the operational group had identified the amounts of feeds added to the culture as a potential root-cause since the values recorded were above the Normal Operating Range. Furthermore, Subject Matter Experts in QC and Technical Support department identified a number of analytical parameters as potential root-causes. Some of these were retained as plausible options while others dismissed by Subject Matter Experts in Technical Support department since they had been previously evaluated during method qualification activities and data was provided to back their findings.

What do you propose to do next? Select the correct answer(s)

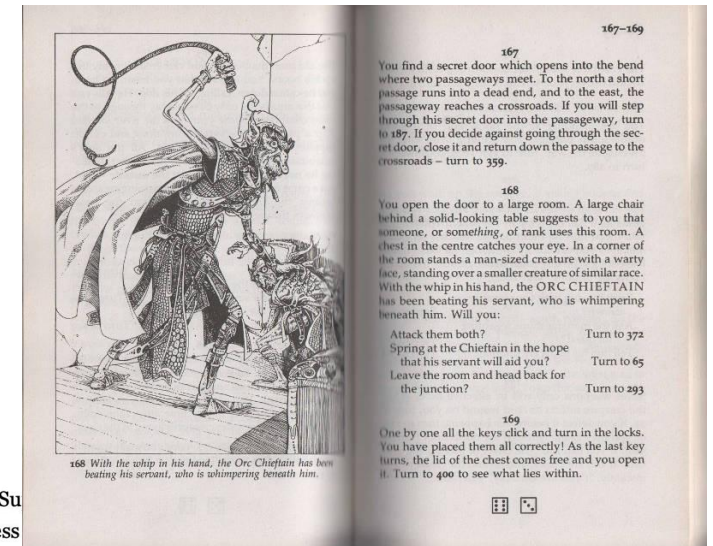
Option 1 : You decide to focus the investigation on the impact of feed amounts since you do not believe that the origin of the issue is within the analysis performed by QC as you never experienced issues with high oxidation before on similar samples **(1 Day)**

Option 2 : You agree with the advice provided by Subject Matter Experts in Technical Support department and you do not pursue further the analytical parameters identified which could be excluded based on data provided. **(1 Day)**

Option 3 : You arrange a subsequent meeting which will add an extra 2 days to the investigation with the same stakeholders from operations, QC and Technical Support department to develop action plans to investigate the impact of the remaining identified root-causes considered to be impactful towards oxidation **(2 Days)**

Option 4 : You disagree with the advice from the Subject Matter Experts in Technical Support department and decide to retain all plausible root-causes within the remit of the investigation **(1 Day)**

Days taken : 18/40



Assessment : Final Portfolios

Overall Performance 20%

Game Designs (40%)

Will be limited to what is achievable!
Marks for design ideas, not graphics!

Any 2 of

- Interactive narrative game in Twine
- Modern board game design/concept
- Card game concept
- (TTRPG scenario)
- Any other artefact (subject to approval)

Portfolio (40%)

Include all your forum posts which will cover the readings and discussions we have covered.

Posts may be edited in the portfolio

Should refer to some of the theoretical ideas we covered!

Final reflection (max 300 words) on your learning

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Summary

Explaining genres and mechanics

common mechanics (wargames, europe, deckbuilders)