Wargaming Urban Conflict

Rolling Synopsis

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What are the unique challenges in trying to wargame modern military operations in an increasingly urbanised world and (how) can they be better addressed?

0. Introduction (~3000)

The introduction will set the scene for the importance and challenges of urban warfare, particularly through the lens of [[Alice Hills]] Liberal Dilemma and [[Matt Caffrey]]'s "wargaming saves lives" and in the increasing focus being applied by (allied) Militaries. It will also summarise my personal motivations and what I hope to achieve from the PhD for the wider body of knowledge, for professional wargame professionals, for the military and for myself. The focus of the PhD will be presented, in particular the golden thread of the liberal dilemma, the elements of urban warfare, the problems of urban myths and how we can develop wargames and wargame mechanics to represent them. It will then provide a capsule introduction (including some of the key terms) on Cities, Urban Warfare, Wargaming, and Urban Wargames,. It will highlight some of the immediate challenges and potential gaps and issues to be explored. The introduction will finish with a chapter by chapter guide to what the Thesis will present and the overall methodology and approach to the work.

1. Urban Warfare (~8,000)

A key tension in this and the following chapter is not wanting to spend too much of the thesis looking at the history and characteristics of urban warfare (which already fill multiple books), but at the same time provide enough research and evidence to inform the rest of the research and to show the long history and deep knowledge which exists. As a result these chapters may lean heavily on secondary research (for instance not spending too much time on reading personal accounts and official war diaries), although some primary resources (especially doctrine manuals) will be used.

This chapter is divided into four parts. The first provides a very high level history of urban warfare. It will look at the main historic periods as they relate to urban warfare. In particular the section will look at how early the techniques of siege warfare became established and persisted for millennia, how sieges began to fall out of favour during C18/C19, and how the late C19 saw the rise in industrial warfare leading to both a shift to "street" fighting and a more total war on cities. The second part presents a

historiography looking at how contemporary writers have talked about the urban fight from Sun Tzu and the poliocretic literature to present. The third section looks at how military urban doctrine in the USA, UK and NATO has evolved over the same period. The final section looks at contemporary urban warfare, starting with a brief consideration of urbanisation, before moving on to discuss why we fight in cities, the types of urban operations, some of the key lenses of modern warfare, a brief consideration of the wars in Ukraine and Gaza and a summary of the potential future urban conflict zones. The intention is to paint the picture of the sort of operations, doctrine and locations that any modern urban wargame should seek to represent.

2. Key Elements of Urban Warfare (~9000)

The first part of this chapter presents my work to develop an evidence-based list of the key elements of urban warfare, developed through a thematic analysis of the key comparative urban battle studies. The analysis is anchored in the "urban triad" from US urban doctrine, splitting elements into those related to the urban population, urban infrastructure and 3D man-made urban terrain. In addition more generic issues of warfighting which are affected by the urban environment are considered. Elements are then orthogonally segmented by whether they are challenges of urban or solutions to the challenged. These are the features that one would then expect to see reflected in an urban wargame - dependent on the exact battle or scenario being examined. An annex will provide more detail on each element. The second part of the chapter then looks at the issue of "urban myths" areas where there is significant disagreement between the received wisdom of urban operation and the views of some urban experts. This presents a significant challenge when it comes to developing an urban wargame, since the wargame is a model of urban combat, and as such has to reflect in its rules the designer's decision as to which urban myths to accept and which to reject. As an annex the chapter also provides a summary of a generic urban operations doctrine, drawn from an analysis of the doctrines in the previous chapter, and of the elements examined in this chapter.

3. Urban Wargaming (~9,000)

The Chapter will open with a very brief consideration of why wargames are not only used by the military but why they are also a valid, useful and appropriate means of investigation for this PhD. A typology of wargames will be presented, along with some key design models. The pros and cons of manual vs computer games will also be discussed, along with a rationale for the focus on manual games for this PhD. The reasons why urban wargaming is an important endeavour will be re-iterated and a history and historiography of urban wargaming presented. The Urban Wargames

Database created to support this PhD will be described and an analysis of its data presented.

4. Analysing Urban Wargames (~9000)

Using the elements of urban warfare typology developed Chapter 2, this chapter will look in detail at how urban wargame mechanics represent the different elements, looking particular at where there are gaps or limited representation. The analysis will again use the urban triad model to provide structure. The chapter will reference the deep-dive paper I've written on the representation of civilians in wargames. The implications of urban myths for mechanics and game design will be considered. The Hue paper I wrote will be used as an example of comparative wargame analysis, possibly supplemented by a further paper or analysis on the Battle of Fallujah. The chapter will end with a summative evaluation. Based on the evolution or urban warfare, the particular instances of urban battles, the derived elements of urban warfare, and the current expectations of how future urban conflicts should be conducted the chapter will consider how well existing urban wargames meet future capabilities, doctrine and expectations, and past performance; how well the unique characteristics of urban conflict are addressed by these games, and what, as a result, are the unique challenges and gaps in trying to wargame modern operations in the urban environment - which of course represent the opportunity for the PhD. A holistic assessment of which urban wargames are the better of the genre will also be presented.

5. Experimentation and Evaluation Planning (~5000)

This chapter will consider the planning for the experimentation and evaluation phase of the PhD. It will consider what needs to be evaluated (and why), a critique of the researcher/myself to consider any bias and expectations, what methods of experimentation and evaluation could be used, and which were selected and rejected and why. It is probably the right place to consider the models of validity that could apply to wargames as this should also drive the what/why of evaluation. The wargame design triad of realism-utility-playability will be used to anchor the broader evaluation. The chapter will emphasise that the development and evaluation is at the wargame mechanic level as much as at the whole wargame level - since a variety of mechanics which other designers can draw on and modify to their own needs is likely to have more impact on professional practice than a small number of complete games developed for very specific purposes. One impact of this is that a larger number of wargames will be presented compared to the initial concept of the PhD, but the analysis will be more at a mechanics level than a game level. The data capture and management plan will be

presented. The chapter will also consider the ethical framework and implications of the experimentation.

6. Summative Experimentation (~10000)

For the selected games the chapter will present the objectives, designs, the method of player recruitment, a description of how the games were staged (the experiment), what data was captured (and how), a description of any iterations in design based on feedback from each play, and holistic analysis of the data at game level and key findings and discussion. It is anticipated there will have been around 100 players involved in game play, although not all will have detailed data captured. The evaluation for each game will focus on the evaluation criteria established in Chapter 5 - looking in particular at the measures of validity, realism, utility and playability.

7. Civil Effects Mechanics (~10000)

This, and the following chapter, will take a more game mechanics based view of the games and data. This chapter will consider the mechanics which address the first two elements of the urban triad - civil population and civilian infrastructure and look at how mechanics addressed these issues, providing a description, analysis and evaluation and discussion for each, and ending with a consideration for best practice, drawn from both these novel mechanics and existing mechanics.

8. 3D Terrain and Warfighting Mechanics (~10000)

This chapter will follow the same format as Chapter 7, but look at the last element of the urban triad - man-made 3D terrain, and at the generic warfighting elements. The urban myths will relevant here, looking at where the mechanics position themselves against the myths.

9. Discussion and Best Practice Recommendations (~6000)

This chapter will present a final summative discussion of the research. It will consider:: how have/can the challenges of urban wargaming be addressed through novel game design and novel mechanics, how the games work as a whole and what further games & mechanics are needed. The chapter will also draw out a summary of best practice recommendation for hobby and professional urban wargaming - referencing a separate book which will hopefully be produced before the thesis which provides the detail in a practioners guide to urban wargaming. The final section will provide a conclusion to the

work. This will recapitulate the main observations on urbanisation, urban warfare and existing urban wargaming, and why urban wargaming is important. It will summarise the key challenges and novel approaches identified, the results of the experimentation. It will conclude with identifying what has been learnt, how this has furthered the knowledge in this area (for the academic, professional wargaming and military community), to what extent it has changed the researcher, and ultimately how successful the research has been as answering the research question.