OPUC Designer Notes

The genesis for OPUC came from a map I drew in the early stages of the Russo-Ukraine war when it looked like the Russians might, after taking Lysychansk, push on into the rest of Donetsk. I drew out a nodal map of the key towns which it looked like they might take, associated each town with a comparable one in the UK, and connected the nodes by what looked like the likely avenues of advance between each town. At the time I had vague ideas that the map might form the basis of a game, but as it was the Russian advance got bogged down in Bakhmut and the map was filed away, more or less forgotten. Fast forward 2 years and the Donetsk area again became the focus, but now there were very small, incremental advances. Even with places like Bakhmut, Toretsk, and Chasiv Yar falling the Russians still hadn't reached most of towns on the grid, including Kostiantynivka, Pokrovsk and Kramatorsk.

One issue that these battles raised, and which Anthony King considered in revising his thesis in Urban Warfare in the 21st Century that urban battle would dominate (ref) was that a lot of the fighting was actually rural (ref), and this interlinking between rural and urban warfare in the Ukraine, and so potentially other future wars, has likewise fascinated me, and been something which I felt that my PhD ought to consider. And seeing as this is a wargaming PhD the most obvious way to consider it was through a wargame. This would mean a wargame at a more operational scale, such as the whole of the. Salient, and giving players the choice of fighting through cities, or ignoring them, or fighting in the rural in order to help win the cities. Doing a game at the operational level (Corps/Division) would also then give me a more or less complete set of nested games from The Urban Calculus (strategic pol-mil), through OPUC and City & CEMA (Bde & Bn, possibly Coy) to Rubble Town (Coy/Pl).

I initially tried to work the game up around my topological model. To reflect the rural component needed to allow players to move into the spaces between the nodes and connectors, in a not dissimilar way to that used in Violent Victory (??). That didn't really work for me, so I then added rural nodes in each of the spaces, with their own connectors, but that just got too crowded, especially connecting every rural node to every adjoining urban node. I also decided at this point to switch focus from Ukraine to Estonia as I could have a bit more certainty over ORBATs and not be being constantly proved wrong by events on the ground - but once I've got OPUC working I may well do a Ukraine scenario. So I switched to a hex map, but the urban nodes themselves weren't just simple circles/hexes but tiered and bifurcated to reflect the zones of the city in an abstract way (something Insaw years ago in a Dstl urban wargame). I didn't want urban

hexes to be simple +1 for urban but to become foci of activity in their own right. At the scale of map this would be too much detail for one hex, and none of the urban settlements would be multi-hex, so after briefly playing with the idea of embedding larger hexes for the BUAs (built-up areas) I decided to make use of some 9cm MDF squares I had (essentially beer mats) to represent the BUAs off map, with the convenience of just needing to layout the BUAs currently being fought over. That seemed to work nicely, so with the mapping sorted I moved onto the rest of the rules.

As an operational game OPUC should explore the issues facing a Corps or Division Commander. This probably means issues like logistics, what is happening to the civilian population, and how the campaign is playing out politically and in the media. The actual combat should be relatively straightforward so as to free player headspace for the other issues, and once given direction the lower level commanders should be trusted to fight the enemy in front of them.

Within a professional context OPUC is intended as an educational game, introducing players to the issues, and giving them a framework in which to discuss and explore them.

The logistics model is a development of something I originally created for a 10mm, battalion level miniatures game. At the start of the game you got so many LOG tokens, and then movement and firing consumed these tokens. There was a good likelihood of resupply, but you didn't know exactly when or by how much. So it's was up to you whether you wanted to go all guns blazing at the start, or have a more steady use of LOG - but probably no big attacks. For OPUC I wanted to make the LOG a bit more predictable, hence there is a per turn allocation, for it is variable. The higher up the formation change you go the more it seems reasonable to assume a smoother LOG profile, but I may add in some ability to "bank" LOG between turns. I also didn't want players to have to worry about using it for every move, and looking at the SOHB tables it's combat and tank movement that are the big consumers (rations by the way is a minute amount), so I decided to just focus on those. From the SOHB tables I worked out a reasonable per battalion consumption estimate, and there's a nice table there of how it varies in attack and defence. Nothing about urban vs rural so based on my evidence base I've gone with a x3 for now. I thought I could then work out the lift capacity in the formation, but those numbers seemed to give far too high a figure, even allowing for SOHB's calculations for transit time and load/offload. So instead I took their "average war consumption" figure, assumed they had enough load to life that amount, and that then gave me a base for my LOG/turn figure. I did early on think about splitting POL and

ammo (but never ammo types), but consumption rates seem comparable, and keeping it as generic log would be one less thing to think about when the whole concept of spending LOG is probably new to players.

My original thought on the civilian/displaced persons (DP) side was to have a stack of cubes on each BUA, proportional to population, and then have these converted into DPs by military action. There is some evidence that around 10% of a population remains even after evacuation. The differences in BUA size (so do small towns have 1 and Tallinn has 1000, even at around 1 cube = 5,000 people) meant this was a non-starter, so I went for a stochastic approach to generating DP, with the chance dependent on the BUA size. A possible enhancement would be to have the roll get harder as more people leave. One thing I was very keen on was that DPs should be generated by towns close to the fighting, not just those caught up in it (by which time it may be too late anway). Certainly anecdotally this seems to be what has happened in the Ukraine, an early wave of evacuees, then stabilises til the fighting comes close and then ramps up again. Once the DPs are created they are likely to block movement and supplies along the MSR and it becomes a commander's problem to get them off the roads and into camps or away to safety. I did think about making the Commander have to think about civilian sustainment, but given that rations are a fractional element in the combat logistics, and we're talking relatively small and few BUAs I felt safe in ignoring it for a first iteration.

I also think that the yellow cube/CD? token approach is the most elegant solution I've come up with so far for determining collateral damage. It avoids consulting extra tables (COBE) or having a complex CRT (City & CEMA 1) mid turn, and instead just lets the mass of possible collateral damage build up (which has its own impact), before being resolved en masse in simple die rolls at the end of the turn.

The ISR model was refined from that in City & CEMA, and I may well retrofit. In City & CEMA you assigned your ISR assets to targets, then rolled for detection, based largely on UTZ type. With 10-20 per side it took ages. This time I've gone for a more abstract ISR Points, then you roll a dice for each, still possibly 10+, but all in one go, and then check against the table to work out how many fail (50%), and how many can detect in open, PV1 and PV2, *then* you assign to target. Marginally less realistic, you put your high throws against your priority targets, but way faster. The same table is used for Close ISR as units become adjacent (but still 15km away). I wanted a common mechanism to give a bonus when the enemy has more than one block in a hex, but adding extra dice or adding a DM (which meant mental gymnastics on the table) didn't work for both the

Deep and Close use cases, but I finally hit on the idea of just allowing a reroll per extra block - that should soon teach people to disperse!

That brings up a general set of points that I am now trying to follow in all my rules:

- Try and have as few tables as possible, with related tasks sharing tables where able;

- Trying to keep to a consistent roll-High or roll-Low mechanic across the whole rules (and likewise is it "target number" with Target Mods, or dice roll with Dice Mods);

- Try and keep to a few set of mechanics across the rules - for instance I was using both BOD and N+D6 to get variability in the various asset points, but collapsed all of them to just N+D6.

One part of the rules I don't think is ideal is the use of D6 in the combat calculation. Remembering the X+ and Y+ and managing all the DMs is a bit of a faff, but I prefer the variability of the "miniatures" approach to combat to the ratio or even differential based CRT of most boardgames. I just need to do some numeric work, and comparison to OA research at some point to justify the choice! I think the "flat" result of a lone is justified as it actuall only gives about a +/- 33% variation on a typical CF+DMs (e.g. 6+3) and reduces as DM's, aka tactical choices mount, and the flatness lets you readily explore a wide range of outcomes rather than being forced into a bell curve (REF).

I'd been thinking about using a "columbia blocks" type approach, where combat factors are around the edge of the block so that you can easily show degrades in performance for a while. The approach is described using counters by Sabin (ref). The up side is that you don't need separate rostas or markers to keep track of losses, and even with hidden cubes can have 4 states. The downsides are that you need to ensure that players keep the correct orientation (especially when hiding/unhiding), and that to remain legible you are probably limited to a single combat factor, not separate ones for attack/defence or AT/AP. I'm quite happy with them, but it will be interesting to see if they survive contact with the enemy. Not too big an USAID they don't as it's only how the damage is shown, so could revert RAG cubes as in City & CEMA.

I deliberately kept away from Capability Cards and used a list of CP actions as I've seen loads of time wasted in my games and others in choosing CCs. I also think there's a case for keeping CCs to things beyond the commanders direct control, perhaps the things they ask higher command for, but may not get, or using them to form part of a pre-game to look at force capability/mix, so almost part of the ORBAT choice.

Finally, I'm pretty proud of the approach to engineering tasks. I finally sat down with the Staff Officers Handbook to work out relative effort for field tasks and bridging. I wanted to avoid having lots of on-table Engrs units, but they need to be on table to a) be targets and b) have some geographic restriction on action. So having essentially the RE Regt "HQ/depot", and then engineering detachments (EDs - essentially squadrons) which could then deploy as simple counters as required was a good blend, and the "Columbia block" circumferential numbers to show how many dets were available and to track losses made it all very simple. The icing on the cake was that by having different blocks to represent combat engineering and wet gap crossing capability/EDs there'd be a nice distinction between UK capabilities (combat engineering biased) and Russian capabilities (gap crossing biased).