Raf's Perspective on Matrix Games

and a desire to improve decision making by playing matrix games with LLMs 🎮

Rafael

2025

* Generative AI has been used in the creation of this presentation

* Rafael is a hobbyist and has never seen a matrix game played by humans

You're a rebel commander in Syria.

Chemical weapons are missing.
Putin is on the phone.
The UN is watching.

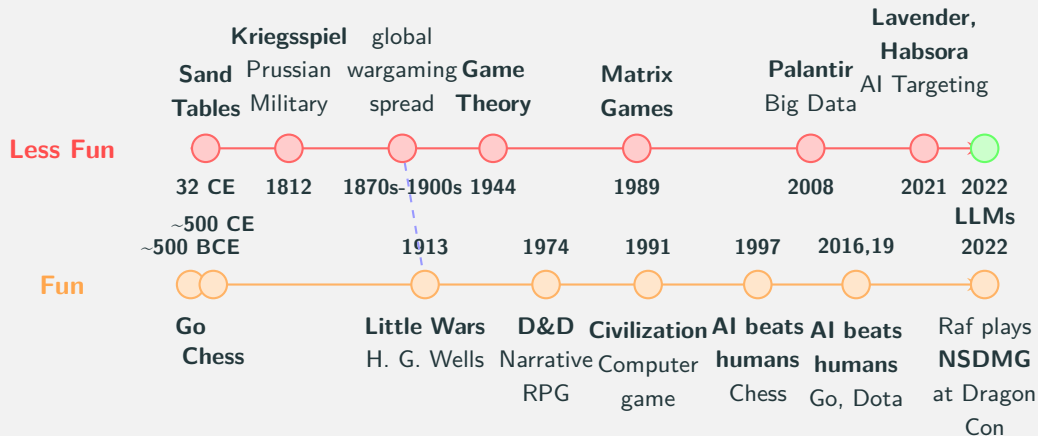**What do you do?**

Traditional Wargames vs Matrix Games

Traditional Wargames:

- Consult 200-page rulebook
- Check 47 modifiers
- Roll 3d6, cross-reference table
- Calculate supply chains
- 20 minutes later...
- Still on turn 1

Matrix Games:

- **Declare:** "I appeal to the UN for an investigation"
- **Because:**
    - I have credibility
    - Russia wants to avoid blame
    - It distracts from my actual plan
- Roll 2d6

A Cherry Picked History of Wargaming and Strategizing Developments

Less Fun

- **Sand Tables** — 32 CE
- **Kriegsspiel** Prussian Military — 1812
- global wargaming spread — 1870s-1900s
- **Game Theory** — 1944
- **Matrix Games** — 1989
- **Palantir** Big Data — 2008
- **Lavender, Habsora** AI Targeting — 2021
- **LLMs** — 2022

Fun

- **Go Chess** — ~500 BCE, ~500 CE
- **Little Wars** H. G. Wells — 1913
- **D&D** Narrative RPG — 1974
- **Civilization** Computer game — 1991
- **AI beats humans** Chess — 1997
- **AI beats humans** Go, Dota — 2016,19
- Raf plays **NSDMG** at Dragon Con — 2022

The Basic Matrix Game - Chris Engle - 2000

How to Play:

1. **Make an argument** about what you want to happen
2. **Referee judges strength** based on your reasons
3. **Roll dice** - stronger arguments need lower rolls
4. If you roll the target number it happens!

Argument Strength Table:

- Very Strong: 2+ on 1d6 (83%)
- Strong: 3+ on 1d6 (67%)
- Average: 4+ on 1d6 (50%)
- Weak: 5+ on 1d6 (33%)

Example: WFH Landlord Standoff

Context: Your landlord threatens eviction over WFH. You're a Tenant, others play Landlord & Neighbor

You argue: *"The lease allows WFH and threatening eviction is illegal retaliation"*

Your reasons:

- California tenant protections are strong
- My lawyer friend confirmed this is legal
- Lease has no WFH restrictions

Landlord counters: *"Zoom calls disturb neighbors & you're running a business"*

Referee: You = Very Strong (2+), Landlord = Weak (5+)

Rolls: You roll 6 , Landlord rolls 4

Result: Landlord backs down, but now requires "quiet hours." *Will neighbor argue for stricter rules? Landlord try a different angle?*
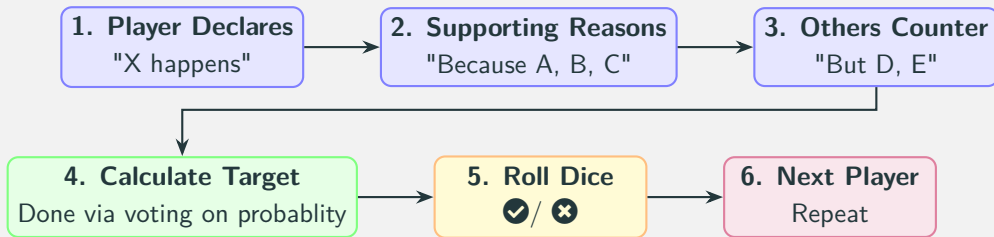
Do Matrix Games Teach?

I think so

- Must articulate *why* decisions make sense
- Argument $\rightarrow$ counter-argument $\rightarrow$ synthesis
- Role-play expands perspectives
- Stories are remembered better than facts

"One of the young analysts remarked after the game that she had learned more in the 90 minutes of the game about the overall situation, than she had in the last 4 months of analysing air movements over the Ukraine and Russia"

— Matrix Games for Modern Wargaming

Why LLMs Are Perfect for Matrix Games

Matrix Games Philosophy:

- *"Players literally do make the game up as they go along"*
- *"Neither the players or referee know the truth before the game begins"*
- Players decide what is in the world through arguments

LLM Characteristics:

- LLMs make things up as they go along
- Generate plausible narratives on-the-fly
- Hallucinate details and Unreliability of facts
- Logic via language

Ay, yes, this was my plan all along!

Actionable Items

I'm looking for:

- 🔧 A job building this
- 💼 Personal problems this could help solve
- 👥 People with experience running:
  - Wargames
  - Matrix games
  - Megagames
- 📘 Theory on education, prediction
- 💡 Cool ideas to integrate

Let's discuss:

- ❓ Q&A
- ⚖️ What abilities should AI be given?
- 🤖 When/will Gen AI make decisions better than humans?
- 💬 Your experience with:
  - LLMs
  - Matrix games
  - Games as training

🔗 https://matrix-game.fly.dev