

Wargame

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AI and Wargames (Knack and Powell, 2023)

- Red Teaming in general (political/security/other simulations, table-tops -> identification of gaps in a strategy, SWOT analyses, policy analyses etc.).
 - **Narrow (safe) usage:** Repetitive tasks within sims and wargames (background info creation, automatic translation/transcription, textual data analysis, visuals etc.).
 - **High-risk usage:** Red team, game manager etc.
- Low cost/questionable reliability.
- Better on **tactical/operational** level than on the **strategic** one.

Wargame theory – introduction I (Appleget et. al, 2020)

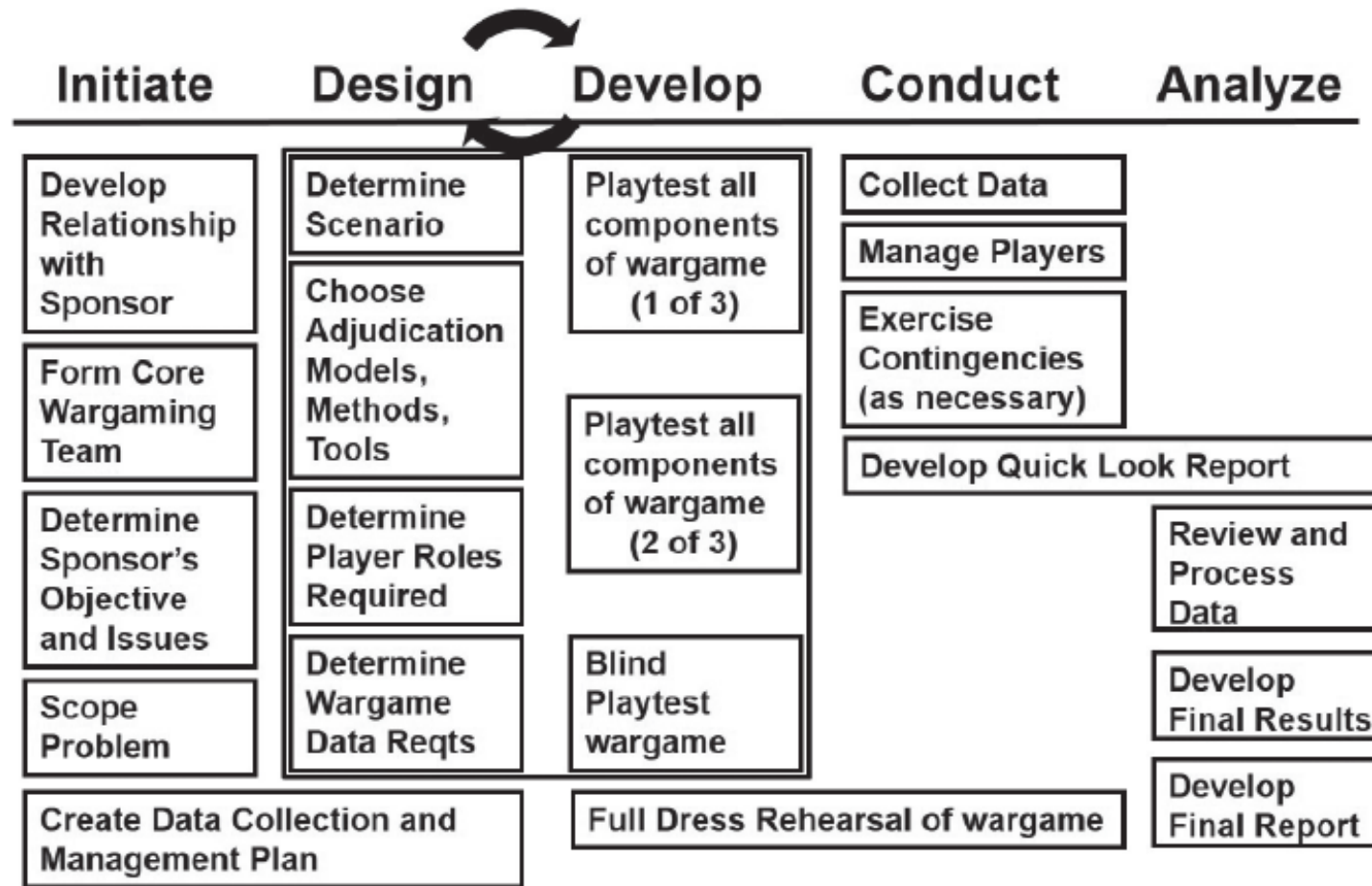
- Usually a sponsor – sets goals and timeframe.
- Sole purpose of the **analytic wargame** is to collect **analytic data** to answer sponsor's (research) questions – data determine wargame's success → **well thought-out data collection plan is needed!**
- Roadmap = data collection and management plan (DCMP).
- Not just for combat/conflict scenarios, but for **Analysis of alternatives (AoA)** – e.g., M1A2 Abrams and its replacement options.
- + pedagogic, research tool.



Wargame theory – introduction II (Appleget et. al, 2020)

- **Course of action wargaming.**
- **BOGGSAT** = "bunch of guys and gals sitting around a table,,."
- Vs.
- **Seminar wargames** - designed around the DCMP (Decision-Centric Methodology Process) and have a structured approach.
- **Quantitative/qualitative/hybrid** models.
- Strong role of **probability** and chance (dice rolls) + conditioned probability (e.g., missile interception of Iron Dome AA system – informed by statistics).






Five Phases of Wargame Construction

Source: Appleget et al. (2020, p. 73).



Process:

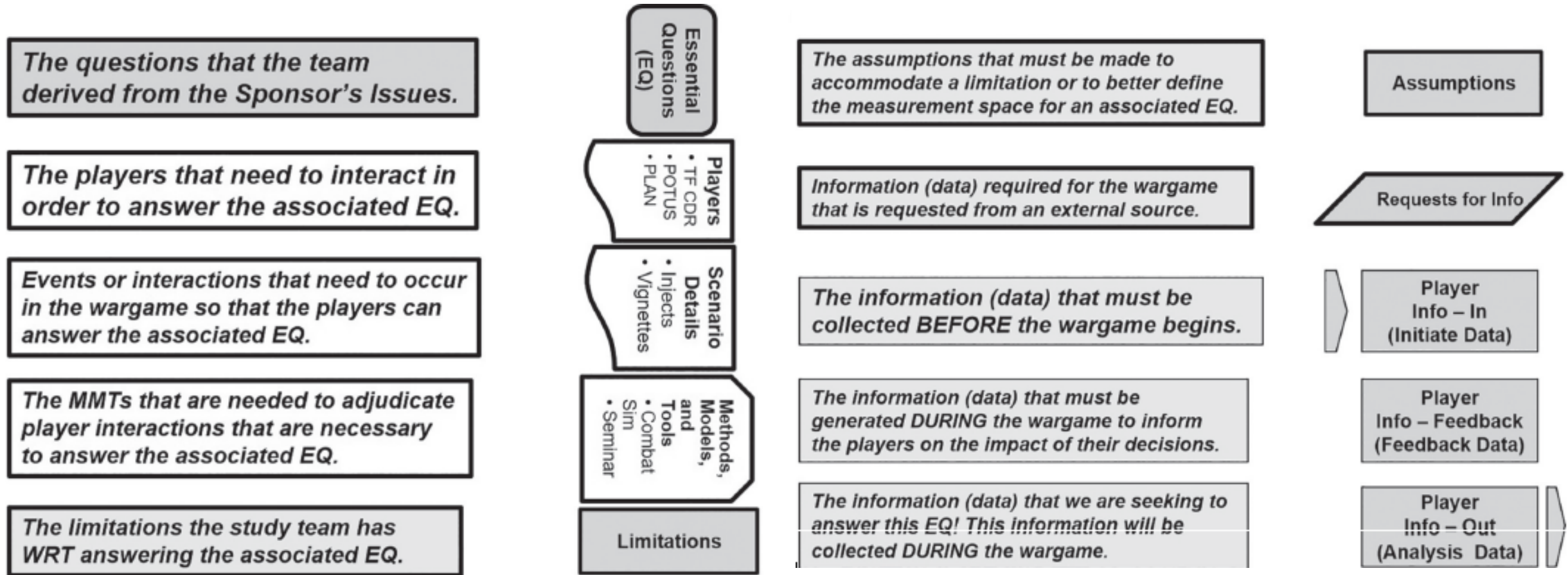
1. Choose the arena of the simulation – wargame/strategic table-top/policy analysis/COA etc.
 - Why? – justification, purpose -> litreview
2. Choose the specifics of the simulation framework – actors, setting, dividing into teams, roles etc.
3. Proceed while adhering to the literature.



AI and Wargame (Appleget et al., 2020)

- Will it be an **analytic wargame**? If so, how will we collect data? → Data Collection and Management Plan (DCMP).
- **BOGGSAT vs. seminar wargame** (designed around the DCMP)? Do not choose only because it is easy!
- Who will be the **facilitator**?
- **Establish a wargame plan** – every task that needs to be accomplished for preparation, execution, analysis, and reporting.
- **Incorporate AI tools** into the wargame – adhere to literature!

DCMP (Appleget et al., 2020, p. 104)

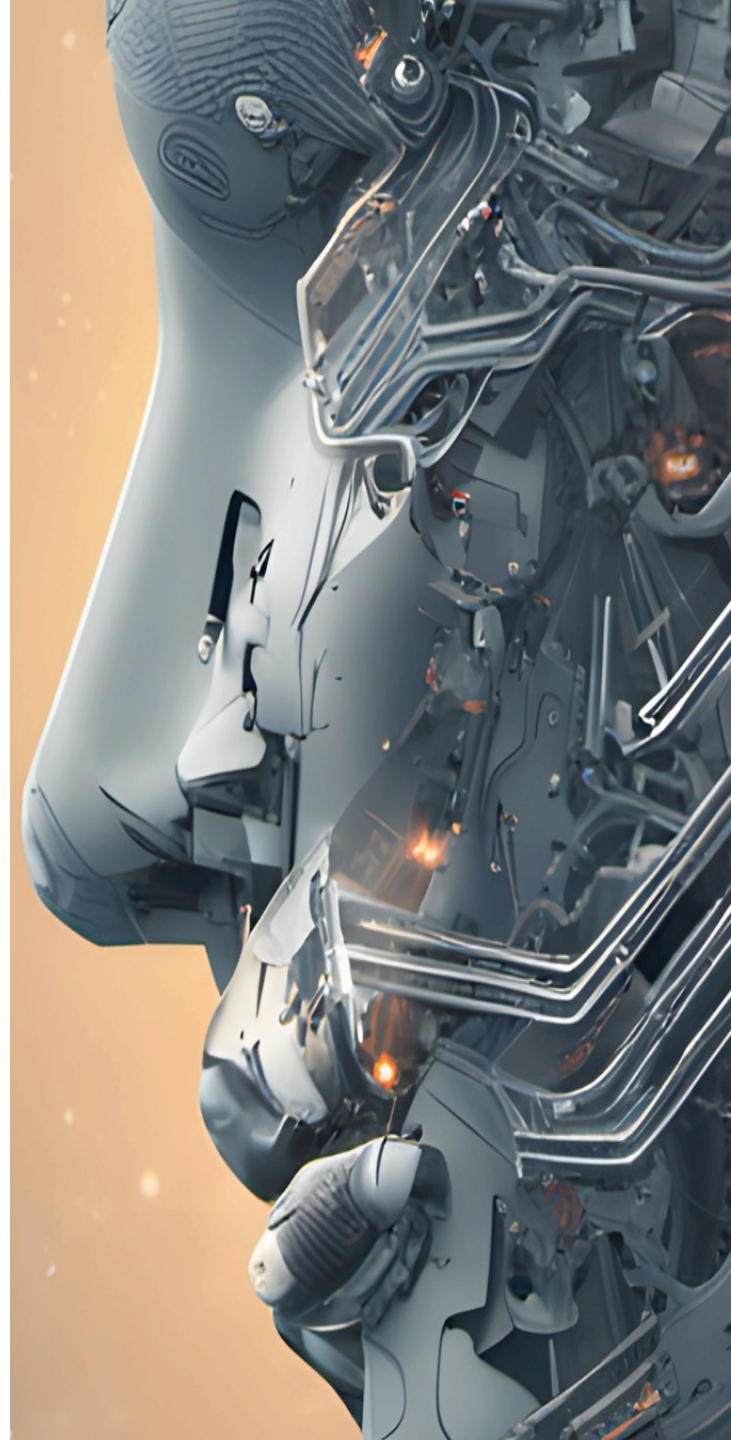


Design (Appleget et al., 2020)

- **Measurement space** (if analytical) – quantitative/qualitative?; conceptualisation and operationalisation; function of the scenario – e.g., TTDs of MBTs).
- **Scenario** – sets scene + narrative for players; must be plausible (we do not want players to „fight the scenario“).
- **Data** – initiate (data we need before the wargame begins), feedback data (needed to keep players playing – injects, responses etc.), analysis data.
- **Methods, models, and tools.**
- **Players.**
- **Assumptions** – all scenarios set in future need assumptions! → time setting needs to be decided as well (past, present, future).
- → Practical exercise (p. 128).

References I

- Appleget, J. Burks, R. & Cameron, F. (2020). The Craft of Wargaming – A Detailed Planning Guide for Defense Planners and Analysts. Annapolis: Naval Institute Press. ISBN 9781682473771
- Knack, A. & Powell, R. (2023). Artificial Intelligence in Wargaming An evidence-based assessment of AI applications. The Alan Turing Institute.



Thank you for
your attention.

Questions?

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