

*An Approach to the Modeling of
Operational Test (and other) Assets*



COMOPTEVFOR



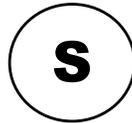
Impetus

- DoD is moving toward capabilities based management
- DoD is moving toward tightly integrated forces
- DoD is facing a wider array of threats
- DoD is developing a wider array of responses

Each of these issues, as well as others contribute to an increasing complexity in the answers to even the most basic questions. In WWII, COMOPDEVFOR was stood up to develop tactics in response to kamikazi torpedoers. To this day we still answer questions about the ability to operate real forces in combat. There was a natural transition to COMOPTEVFOR when Title X established the requirement for Operational Test.



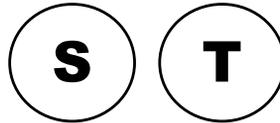
System Under Test



System Under Test – this is what we test. For OT, there is a constraint that the SUT must be “production representative.”



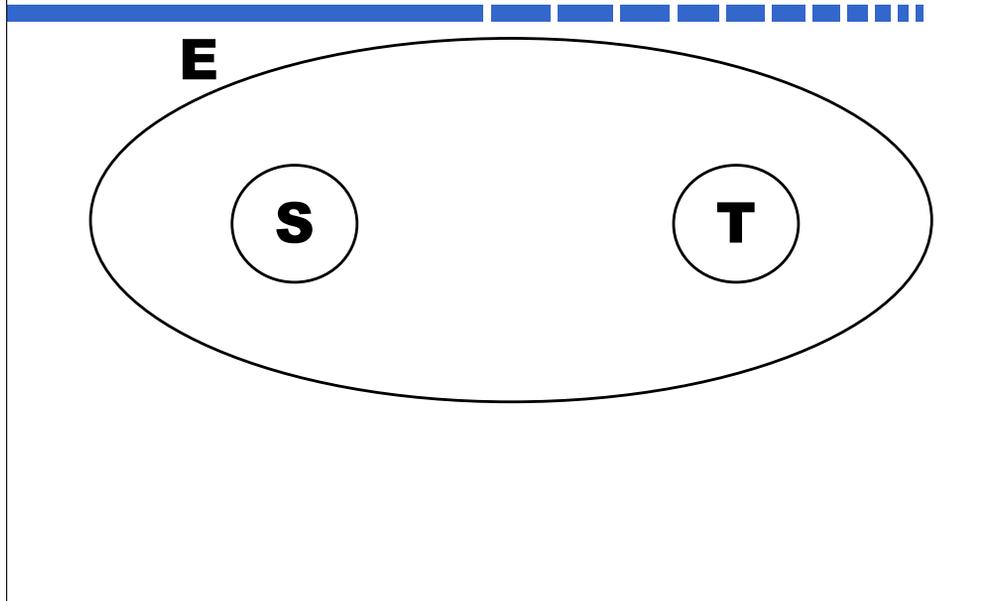
Threat



Threat – this is what we test against. The threat includes anything outside own forces that inhibits mission accomplishment. In Klauswitzian terms, it is anything that could generate the “fog of war.” It includes the neutral or protected entities that must be worked around and is constrained to need to be current with respect to the world situation.



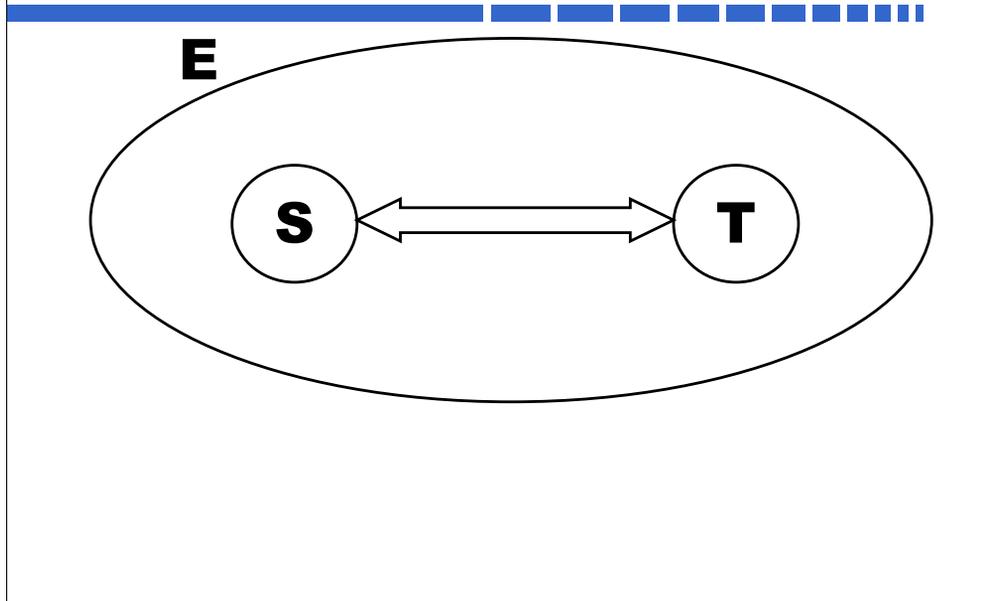
Environment



Environment – This includes everything that interfaces with the SUT or Threat. It is potentially an infinite set and is bounded by the requirement to be realistic. One way to narrow the view of the Environment is to filter by relevance.



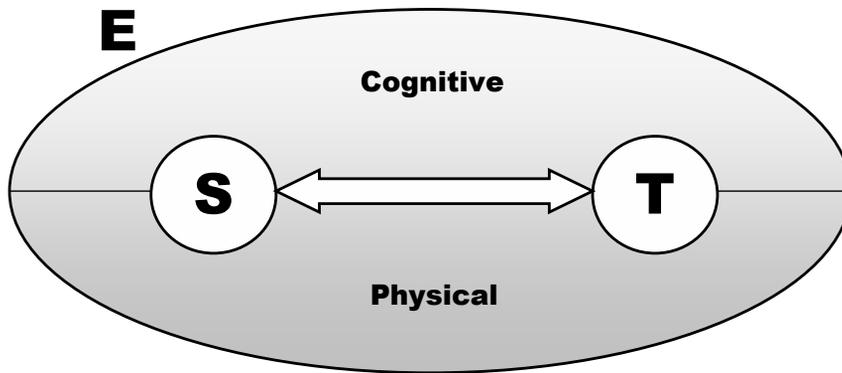
Interactions



Interactions – These are the basis for determining what is relevant about a test. It comprises the issues of concern relative to the questions being asked. Questions of Operational Effectiveness deal with characterizing the nature of SUT to Threat interactions (and not with the state of SUT or Threat entities). (Suitability deals with internal SUT interactions.)



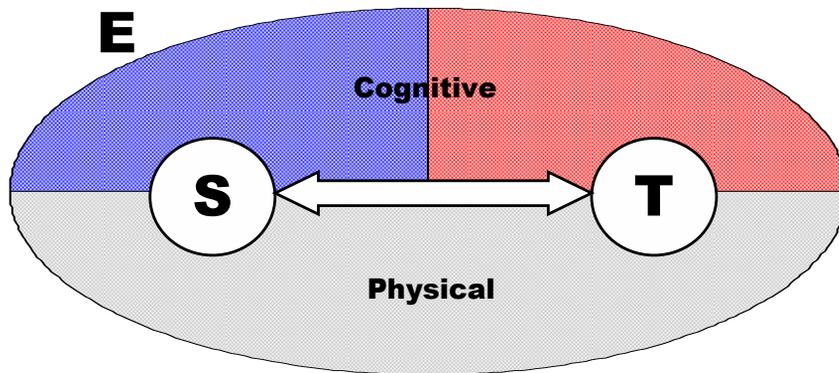
Different Environments



It is worthwhile to identify a partition in the Environment into the Physical and Cognitive domains. The Cognitive domain includes things like training and doctrine as well as human performance.



Different Cognitive Environments



Within the Cognitive domain, there is a clear distinction between the Red Force and Blue Force issues. This is the distinction of asymmetric warfare, where the goals, aims, and moral standards of the interacting entities are different.



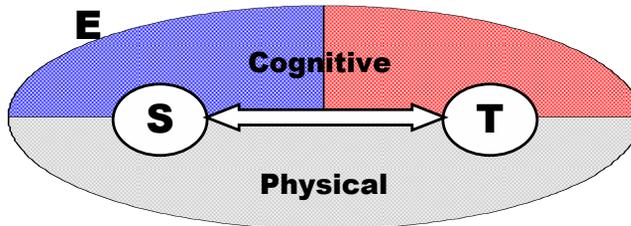
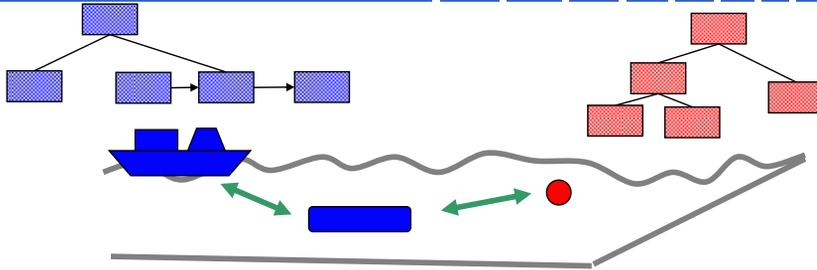
Why Bother?

- Each of the different domains have different constraints or contexts
- The contexts and constraints affect the standards of performance for the verification and validation of models and simulations
- These elements provide a common framework for evaluating M&S as a tool within the domain of its intended use

What does this view of OT bring to the table?



An Example





Questions

