Operations and Assessment Planning in the Fleet Headquarters: Understanding Effects at the Operational Level of War

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“Effects are elements of a causal chain that consists of tasks, actions, effects, objectives, and the end state(s), along with the causal linkages that conceptually join them to each other. Actions are the results of assigned tasks. Actions produce specific direct effects, those effects produce other, indirect effects that influence the adversary and other actors within the operational environment, and this chain of cause and effect creates a mechanism through which objectives and ultimately the end state are achieved. The end state is a set of conditions that needs to be achieved to resolve a situation or conflict on satisfactory terms, as defined by appropriate authority.”

Air Force Doctrine Document 3-0, Operations and Planning

This article provides a US Air Force perspective of effects that can be useful for maritime design efforts, planning, execution and assessment. It explains how staffs leverage systems-oriented thinking as a start point to help define the operational environment, develop the operational approach and subsequent courses of action. This article describes how this system thinking helps to connect to the identification and development of effects associated with success of the operation. It advocates leveraging United States Air Force doctrine on the explanation and use of effects in both planning and assessment for the development of both the maritime operation and assessment plan. This short piece emphasizes “second order indirect effects to describe conditions associated with operational level objectives to determine the degree progress of the operation. Finally this article cautions that an over focus on systems thinking and effects based approaches is no substitute for sound operational and assessment planning.

Operations assessment is a continuous process to determine the progress toward accomplishing a task, creating a condition, or achieving an objective. Joint Publication 3-0, Joint Operations, states that assessment “measures how effective the force is in employing force capabilities during operations”. At the operational level of war, the staff does this by measuring progress of planned actions. The staff identifies and explains changes in operational conditions as the result of those actions. They acknowledge the achievement or the lack of objective achievement. This assessment informs subsequent decisions made during execution of the operation.

The purpose of operations assessment is to provide an understanding of the progress of the operation as compared to what was planned. This can only happen after time has passed and results can be monitored and evaluated. Based on metrics developed to measure changes in the environment, most importantly the behavior of our adversary and other notable actors, the
staff develops and presents evidence based conclusions that identify the degree of progress of the operation to the commander.

A Systems Approach
During conceptual planning, the commander provides guidance to the staff to define direction, appreciate the operational environment, define the problem, and develop an operational approach. A systems approach is an effective way to appreciate the operational environment. The staff first leverages this approach in defining the environment. This systems thinking is supported by the intelligence preparation of the environment and adversary center of gravity identification and deconstruction analysis. This in-depth analysis gives the staff understanding into what key adversary behaviors and environmental conditions that need to change when defining the problem.

As conceptual planning progresses, the staff then develops an operational approach. Beginning with the end in mind, the staff identifies desired end state conditions (as an output of defining the environment and problem) and develops both intermediate and ultimate objectives likely from decisive points identified partially during center of gravity analysis. As part of describing the “ends,” desired conditions associated with objective achievement are developed that help to define success. Effects methodology is a great way to describe the operational approach. Effects describe the conditions related to those objectives. The development of the operational approach outlines the path to achieving objectives through describing lines of operation, lines of effort and essential tasks required to reach end state conditions.

The Air Force Perspective
The staff needs a common understanding of effects. Leveraging the Air Force perspective on the types of effects and how they are described and used will give, both operational and assessment planners, a solid baseline to begin identifying what and how to measure progress of the operation. Planners should read chapters three, four and six found in Air Force Doctrine Document 3-0 (AFDD 3-0), Operations and Planning, in order to better understand categories of effects and alleviate confusion that can sometimes occur with these effects during operational or assessment planning.

AFDD 3-0 describes four overlapping categories of effects that overlap: direct, indirect, intended and unintended (Figure 1). Direct effects are first order results of actions. They are often physical effects. For example, the immediate physical results of fires are most often direct effects. Here, the purposes of fires have a direct causal relationship with the target. It is here that fires descriptors come into play (destroy, disrupt, delay, deny, etc.). They are often tactical in nature. The immediacy of these tactical, direct effects is often confused with other indirect operational level effects and should not be.
At the operational level of war, the cumulative outcomes of direct effects produce additional outcomes, both temporally and spatially removed from tactical, direct effects produced. These are known as indirect or “second order” effects. These indirect effects can be physical or behavioral in relation to the adversary, but more importantly, it is this category of effects that describe desired conditions related to operational objectives that operational level planners should attempt to ascertain. Indirect effects are often difficult to quantify because they are displaced from direct effects in time and space, and are often described in qualitative terms (Figure 2). Reflective judgment and a degree of skepticism are required to translate “first order” direct effects into a “second order” effects that informs decision making. This is likely a qualitative assessment. Of course, any time qualitative evaluations are made, they can reflect bias. Measuring and assessing these indirect effects to recognize the degree of influence friendly operations have on the adversary is key to help recognize progress or the lack of it during operations. This will have a direct bearing on decisions that the commander is required to make during the course of operations.
Intended effects are the desired and predicted outcomes of the set of tasks assigned to subordinate forces that accomplish objectives and assist in realizing end state conditions. They can be direct or indirect as the case may be. Unintended effects are also the results of the actions of the force, but they are not part of the original concept of the operation. These effects can be direct, but most often, they are indirect at the operational level. In any case, during execution, identifying unintended effects in the environment may be a basis for exploiting unanticipated opportunities or countering unanticipated threats. This is an additional challenge to the staff: recognize unintended first or second order effects that inform decision making for adjustments to the plan.

Operational staffs organize the assessment plan based not only on the logic of the operational plan, but on the best way to convey evidence based conclusions and recommendations to inform decision making. This means data associated with an operational environment can be focused to measure progress towards the end state and related objectives, by phase end state conditions to determine when to transition to the next phase of the operation, or geographically to assess conditions in operational areas that may hold decisive or shaping efforts. A portion of the assessment plan should also be devoted to support anticipated decisions captured on decision making products developed during detailed planning. The assessment plan may be organized to address simultaneous indirect effects that address multiple objectives and end states along different lines of operation and effort. The focus at the operational level should be on indirect effects; those “second order” effects that are the basis for developing measures of effectiveness indicators. The development of measures of performance and its indicators describe the achievement of most direct effect outcomes or “first order effects”, most often those actions with direct outcomes and no intermediate mechanism.

Indirect effects take time to realize, are difficult to measure, and often do not manifest themselves to the operational timeline. Also a set of actions that produce direct effects may not produce the desired intended secondary effect. This is what the current doctrine means.
when it attempts to answer the question, “Are we doing the right things?” If actions are producing the intended direct effects, but the indirect effects do not result in creating the desired conditions to attain objectives, this may indicate a need adjust the plan. This may indicate a distinct lack of progress where, according to the logic of the operational plan, progress should exist. If enough time has passed and progress remains lacking, a minor or major plan adjustment may be warranted.

**Effects and Fires**

Staffs that develop the operational plan and the plan to assess the operation should understand the different between the direct effects that targeting outcomes produce and indirect effects that the commander seeks to attain. Employing fires with the intent of changing the behavior of the adversary by targeting parts of their “systems” requires caution, as interpretations of adversary systems may not be completely accurate and may change over time and space. While tactical level battle damage assessments survey the direct effects of fires, the cumulative outcome over longer time and across larger space may not produce the desired second order effect desired at the operational level.

The mismatch of tactical and operations assessment were evident during the 2006 Hezbollah-Israeli war. An effects based approach relying on fires (mostly air strikes) to degrade and destroy Hezbollah operational functions to lead to operational success did not produce intended indirect effects of defeating a Hezbollah defense in depth. The plan required better intelligence and sufficient ground forces for mission accomplishment. The Israeli answer to this was to increase the use of fires to produce desired intended indirect effects. In this case, an argument can be made that an Israeli reliance on effects based operations (with a nearly singular dependence on air power) and systemic operational design was not an adequate substitute for sound military planning. This doesn’t mean planners should ignore systems thinking and understanding effects. Systems’ thinking does have its advantages to shape understanding of the environment, developing the operational approach, and developing and analyzing courses of action. In conjunction with solid planning efforts (in this case, adjusting to accurate intelligence and insufficient ground forces for the offensive), systems thinking can contribute as a start point to developing intended indirect “second order” effects associated with objective achievement.

**Relevance**

Thinking about how to develop and measure desired effects remains relevant to operations and assessment planning. Many reading this article may recall the August 2008 Memorandum for US Joint Forces Command on Assessment of Effects Based Operations signed by then Commanding General and current Secretary of Defense nominee James Mattis. In this memorandum, General Mattis eschewed the use of effects based operations, and called for “a return to time honored principles of mission type orders, unambiguous Commander’s intent and clear articulation of ends, way and means”. He cites the 2006 Hezbollah-Israeli example above as to how not to plan a campaign. General Mattis did make it a point to include in that same document that joint doctrine (specifically JP 3-0, Joint Operations and JP 5-0, Joint Operation Planning) is the authoritative source for information on how we use effects in joint operations in terms of desired outcomes. Joint Publication 5-0, Joint Operation Planning,
clearly acknowledges that “at the operational level, a subordinate Joint Force Commanders develops supporting plans, which can include objectives supported by measurable operational-level desired effects and assessment indicators.”

What is the “so what” to the staff? The use of effects supports design, conceptual planning, and assessment. It translates the tactical level to the strategic level. During “conceptual planning,” staffs ensure end state conditions, objectives, and indirect effects are well defined, can be measured to an extent, and are relevant to the purpose of the operation and the logic of the plan. Having a common understanding of effect types and categories across the staff contributes to this effort and sets a start point for initiating operational and assessment plan development. During detailed planning, a common understanding of effects ensures the correct use of direct, indirect, intended, and unintended effects when developing, analyzing, and comparing courses of action. This contributes to ensuring that the approved course of action is feasible, suitable, and acceptable. It contributes to assessment planners developing measures for the right set of effects to gauge progress of the operational plan. The right effects ensure that the assessment plan remains aligned to the commander’s intent and the logic of the plan. Failure to recognize this increases risk by focusing the assessment effort on effects that do not contribute to recognizing success. It results in evidence based conclusions that focus on the wrong things and can unintentionally inhibit decision making by simply not being useful. What we can learn from the Air Force about effects can set the conditions for a common understanding that benefits both maritime operational and assessment planning and execution.

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2 “Effects. 1. The physical or behavioral state of a system that results from an action, a set of actions, or another effect. 2. The result, outcome, or consequence of an action. 3. A change to a condition, behavior, or degree of freedom”. Chairman, US Joint Chiefs of Staff. Joint Operations. Joint Publication 3-0. 11 August 2011. Page II-4.
4 AFDD 3-0.
5 Objective. “The clearly defined, decisive, and attainable goal toward which every operation is directed. 2. The specific target of the action taken which is essential to the commander’s plan. Chairman, US Joint Chiefs of Staff. Joint Operation Planning. Joint Publication 5-0. 11 August 2011. Page GL-13
7 Operational approach. “A description of the broad actions the force must take to transform current conditions into those desired at end state.” Joint Publication 5-0. Page GL-13.
8 Center of gravity. “The source of power that provides moral or physical strength, freedom of action, or will to act”. Joint Publication 3-0. Page GL-6.
9 End State. The set of required conditions that defines achievement of the commander’s objectives. JP 3-0. Page GL-9.
10 JP 5-0. Figure III-10.
11 Line of operation. “A line that defines the interior or exterior orientation of the force in relation to the enemy or
that connects actions on nodes and/or decisive points related in time and space to an objective(s)”. JP 5-0. Page GL-12
12 Line of effort. “In the context of joint operation planning, using the purpose (cause and effect) to focus efforts
toward establishing operational and strategic conditions by linking multiple tasks and missions”. JP 5-0. Page GL-12.
13 Fires. “The use of weapon systems to create specific lethal or nonlethal effects on a target”. Chairman, US Joint
14 AFDD 3-0. Page 70
15 AFDD 3-0.
   Assessment academics. October 2016
17 AFDD 3-0.
18 MTTP for Operation Assessment. Page 18 (paraphrased).
19 Measure of effectiveness. “A criterion used to assess changes in system behavior, capability, or operational
   environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of
20 Measure of performance. “A criterion used to assess friendly actions that is tied to measuring task
21 AFDD 3-0.
22 Paraphrased. AFDD 3-0. Page 106.
23 Continuous assessment helps the JFC and joint force component commanders determine if the joint force is
   “doing the right things” (MOE) to achieve its objectives, not just “doing things right” (MOP). JP 3-0. Page II-10
24 US Army Combined Arms Center. The Long War Series. Matthews, Matt. We Were Caught Unprepared. The
   2006 Hezbollah-Israeli War.
   Operations. Mattis.
26 JP 5-0, page III-20 and III-21.