Visualizing the Navy Planning Process

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The military planning system provides a structured process through which contributions from the staff, as well as superiors and subordinate units, enable the Commander's intent to unfold and become effective. Visual displays, in the form of diagrams explaining the steps in the process as well as serving as the resulting plans (often in the form of Power Point presentations) play an important role. As the Naval Warfare Publication 5-01 Navy Planning puts it, “Military planning, and by extension, Navy planning, is the process by which a commander (CDR) visualizes an end state as well as the arrangement of potential actions in time and space that will allow the realization of that future.” ¹ Checklists, decision support matrixes, tables articulating risks and other tools visually displaying planning process elements are central to planning process execution. In addition, visual tools concerning the process itself can facilitate education, training and execution of the Navy Planning Process (NPP).

Military planning is both complicated, with many different parts, and complex, consisting of parts interacting in multivalent ways. However, these diagrams often portray the planning process as linear, which fails to communicate the complexity of the process. This linear bias appears not only in descriptions of the planning process itself, but in the plans that the process generates. For example, plans proceed along “Lines of operations” visually represented in Figure II-13 of JP 5-0 and “Lines of Effort” shown in Figure III-14 of JP 5-0. Some processes are represented as circular lines, (such as in Figure III-17 Phasing Model).²

As an alternative, the following NPP charts are examples of what Herbert Simon in his Science of the Artificial referred to as “external memory structures” to assist planners in producing effective plans dealing with complex, unstructured problems in highly dynamic environments. Planners are like the architects Simon describes as the prototypical designers “in a semantically rich task domain”.³ For architects, Simon explains, “The emerging design is itself incorporated in a set of external memory structures: sketches, floorplans, drawings of utility systems, and so on. At each stage in the design process, the partial design reflected in these documents serves as a major stimulus for suggesting to the designer what he should attend to next. This direction to new subgoals permits in turn new information to be extracted from memory and reference sources and another step to be taken toward the development of the design.”⁴ Put in the language of the Navy Planning Process, the diagrams serve as planning process charts, on which the significance of the orders, decision matrixes, command and control diagrams, wargaming result templates, briefs and others products (external memory aids) are indicated as navigation aids guiding the planning group through the process. The process, unfolding along a spiral, in which inputs, outputs, planning team tasks and feedback continuously influence and are influenced by activities and products taking place above and below the level at which the team is currently focused is respected on the charts.
The diagrams thus function like the thangka, ornate paintings of Buddhist iconography from Nepal and Tibet. Thangkas serve as references to guide contemplative experience. (See figure 1). Similarly, the NPP charts are concept maps of the planning process, reminding Operational Planning Team (OPT) members of the activities they must accomplish, the inputs and outputs associated with those activities, feedback required and the steps above and below each level of the process which they must inform and be informed by.

These charts function differently for different users. For those new to the planning process they can provide a synoptic vision of each step, informing detailed study of the NWP 5-01. Experienced planning team members can use the charts in two ways. One, they can use the charts to provide an initial bearing accelerating the development of their individual mental models as they work together to help the commander unfold his or her understanding in a way that will enable the dispersed units to internalize the Commander’s intent. Two, the charts can serve the planning team as an awareness and synchronization tool. The charts, placed on the walls in the planning space, enable quick checks on the step in the planning process that is the current focus of discussion, allow for indication of taskings to specific individuals, and chart annotations indicate, for example, potential development of, completion of or the need to re-examine a specific activity. They also provide the commander a rapid insight into the status of the planning effort – with a glance the commander can see where the OPT is in the process and where his or her immediate input is required.

**How to read the external memory structures.**

Figures 2 – 4 are prolegomena to the charts presented as figure 5-10. Figure 2 portrays the Navy Planning Process as an exercise in sensemaking through cultivating understanding among the commander, the staff, and the superiors and subordinates of that staff in order to enable effective command in highly dynamic environments. The chart portrays the steps of the planning process (Mission Analysis, Course of Action Development, Course of Action Analysis (wargaming), Course of Action Comparison and Decision, Plan or Order Development, and Transition) as ascending in a conical helix. Gains in understanding appear as increases in elevation and the expanding diameter of the spiral indicates a broader and broader grasp of the dynamic environment and actors within that environment.
Figure 3 is a simplification of Figure 2. The conical helix becomes an Archimedean spiral to better show the relationships between the inputs, tasks, outputs and feedback components of the process, and the production costs in time and attention as compared to the products and understanding the process yields. This view illustrates that, for example, the application of design pushes the understanding curve to the left, providing a jump start in understanding at a low cost in time and attention. The charts also help make planners aware of the potential tradeoffs among time, attention, products and understanding by offering a visual way to think through alternatives that can generate the required outputs while compensating for an externally imposed reduction in, for example, the time available to produce the plans, as often happens in crisis action planning.

Figure 4 provides guidance on how to read the following charts. The charts are divided into four sectors and flow clockwise, starting from the upper left Inputs section, through the Tasks, to Outputs to Feedback. The Outputs are enriched by Feedback, from both the commander and staff elements like the Assessment cell, prior to become Inputs for the next higher phase of the planning cycle. Each chart sector is read from top to bottom. This entails that products at the lower left hand corner of the chart are the product of both the Output and Feedback processes. The stylized uroboros (placed at an angle to show the gain in understanding elevation) in the upper right corner indicates the step of the planning process the chart portrays, and the uroboros in the lower left indicates the next step to which the planning team transitions after incorporating the feedback into that step's products. These smaller diagrams within the chart serve as reminders that the planning process is a dynamical system step function, in which outputs become inputs for the next step, leading to an ascent of the conical planning process helix.
Figure 5-10 illustrate the planning process steps in more detail, and are derived from the chapter summary figures in the NWP 5-01 *Navy Planning*. They serve as mental scaffolding, a map, indicating the various subgoals within the overall goal in order to facilitate planning team management of the dynamic process.
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