



Of the usefulness of the design concept, "Cogito ergo praesum"

military-Earth thinking notebook

le Chef d'escadrons Philippe GENNEQUIN

Published on 27/07/2018

Défense & management

A methodology aimed at exercising critical thinking and creativity, Design is the art of structuring a complex operational environment in order to identify and solve the key problem it represents. Inspired by the systemic method and enriched by the teachings of Iraq and Afghanistan, Design proposes to first discern the nature of the problem before solving it. Far from fashionable effects, it is an intellectually worked concept that should be observed and studied, because it is an approach adapted to a changing operational environment.

Discovered by French officers who have recently served in contact with the US Army or who are interested in its work, the concept of Design is an ambitious and brilliant method officially introduced in 2010 in the US Army's operations doctrine[1]. 1) Generating strong intellectual interest and intense doctrinal debate in the ranks of our allies, this method aims at reasoning complex problems, affirming the central place of the chief in the staff's thinking and stimulating creativity.

Consisting of an initial and then complementary process to operational planning, Design deserves to be studied in order to institutionalize an original method, likely to facilitate civil-military dialogue and understanding of complex environments.

This article therefore aims to introduce the reader to the origins and supporters of Design, to explain its major principles and the benefits that the French armed forces could derive from it.

The origins of Design

Before describing the genesis of the concept, it should be noted that the French translation of Design is problematic. Some suggest the term "conception", which has the defect of evoking the well-known "operational design". However, this conception is

already an order and therefore disguises the reality of the concept. The definition of "operational architecture", although it sounds rather bad, would have the etymological merit of embracing its profound nature. Is it not the attribute of the leader (archè , command), just like an intellectual model of the operational environment (tekton, construction)?

The emergence of the concept of Design in the USA coincides with the awareness that military leaders have and will have to fight hybrid threats, within complex environments whose dynamics are difficult to predict [2]. Moreover, the political objectives of the various actors are deeply influenced by the identity and values of individuals or groups with multiple agendas. In this context, socio-political structures, in which force acts, constitute complex and evolving systems (Complex Transformative Systems) [3]. Human groups interpret events according to generally stable values, but specific interests that may change over time. For this reason, complex human systems generate problems that cannot be solved by an intuitive approach or an analytical method [4].

Not only does Design take place in a changing operational context, but it also represents a major organisational evolution of the US Army, aware of the shortcomings of its leaders in understanding and reacting to the situations of uncertainty encountered during Operation Iraqi Freedom [5]. 5] Noting the dysfunctions (cognitive difficulties of the leader in imagining a counter-intuitive solution, rigidity of planning methods that do not allow for anticipating changes in the situation), the US Army joined forces in 2005 with OTRI, an Israeli think-tank influenced by General Naveh[6]. 6] The aim was to study the systemic approach (Systemic Operational Design, SOD) used by the Israeli government and its security forces to translate a political orientation into military strategy. 7] Competing with the Effects Based Operations (EBO) and the Tactical Reasoning Method (MDMP) in the annual Unified Quest wargames between 2005 and 2009, the US Army noted the effectiveness of this method (in a simplified version, however) and the need to formalise it as of 2010[8]. 8] To sum up the purpose of the quest, "Design encourages the Chief and his staff to study complexity before trying to impose simplicity [...]. It thus transforms intellectual power into combat power" [9].

The methodology

Design is concerned with examining three dimensions, each of which defines a stage in the staff's thinking: understanding and visualizing the environment (Environment Framing), formulating the problem (Problem Framing), and expressing an approach to solving the problem (Framing of the Operational Approach). The final product (Design Concept) provides the link between purely conceptual thinking and planning details [10].

10] The description of the operational environment begins with an examination of the current state of the environment in which the force is deployed. This step allows the commander to describe as accurately as possible the observed state (main actors, motivations, interactions) and the desired state (comparable to the desired end state, EFR). The aim is for the staff to have a global and common vision of the perceptions and motivations of the different actors, while reflecting on their tendency to act in a certain way. The practice of constructive and critical dialogue should make it possible to limit deterministic responses. The use of experts can also prevent the filter of culture from distorting this description. A simple diagram, favouring a graphic representation with minimal textual data, should make it possible to imbue each of the specificities of the operational environment.

Once a common vision is established within the staff, it is then necessary to identify areas of tension and competition, as well as the opportunities that the force can reasonably exploit in order to ensure the transition from the observed state to the desired end state. Capability analysis, as well as joint and inter-agency dialogue, should make it possible at this stage to establish a priori the distribution of the perimeters of responsibility. The critical problem can be identified by matching actual capabilities to the expected effects of the force on the environment.

The last step consists in mapping out the areas of action in which the force will agree to use its capabilities in order to solve or minimise the problem identified. The product is usually represented in the form of lines of effort or operations, but this representation is not exclusive. The clarity of the conditions for success and the objectives to be achieved should facilitate detailed planning by establishing a list of key principles for the leader. For example, "the [Design Steps] allow the leader to put his or her thinking into perspective and explain it clearly to subordinates" [11].

11] Table 1 (see Appendix) outlines Design as a continuous cyclical process. Indeed, the environment can evolve and create new tensions or opportunities, which will require adapting the concept (Reframing) and initiate anew cycle of reflection. This phase is certainly the most important as it allows the manager to anticipate any changes in the campaign plan, identify transitions or mitigate the effects of a strategic surprise by facilitating a quicker adaptation of modes of action.

Which way forward for the French armed forces?

The first generation of officers trained in Design recently populated the offices of the Pentagon as well as the staffs deployed in Iraq and Afghanistan. In the short term, it is therefore difficult to measure its effectiveness on the American planning process and to assess the advisability of integrating it into French doctrine. Moreover, its implementation naturally comes up against the frictions of an organisation in the throes of change. As a result, the American armed forces are engaged in an intense intellectual debate: is Design exclusively strategic? How does it relate to more traditional methods of tactical thinking? Can all planners be Designers? These are questions that are currently being answered in different ways. It is therefore advisable to be cautious and carefully observe the US Army's future results and its feedback in the field. In any case, Design now appears to be a reliable preliminary step in the operational planning process, which it complements, combining mutually enriching approaches and methods of reasoning (see Table 2 in the Annex).

Without mentioning the need for interoperability with our Western allies, virtually all of whom have adopted Design, a method of reasoning that offers many advantages should be carefully considered. On the one hand, Design systematizes the chief's personal involvement in the staff's work and stimulates his thinking in contact with his subordinates. On the other hand, it is also a way of institutionalizing a tool for translating political orientations into military solutions. On the other hand, it provides considerable help in facilitating strategic dialogue. Indeed, the Design stages do not take the traditional form of military planning, which is often unknown to civilian leaders. Easily understandable by non-practitioners, Design is thus a tool for civil-military collaboration. It provides an informal framework for analysing and interpreting the operational environment in the context of each department's own expertise, interests and culture. At the same time, it is a forum where campaign objectives and the means to achieve them can be discussed and defined together. As for the necessary acculturation, it could be

greatly facilitated by comparing the mechanisms of Design with the principles of foresight. The latter aims at anticipating ruptures by analysing the question of the margins of manoeuvre (capacity approach), the project (vision) and the strategy (means), which ultimately constitute the stages of Design. However, the General Revision of Public Policies (RGPP) requires each ministry to have a foresight unit, which could serve as a natural interface for the implementation of the concept.

Given the increasing complexity of current (and future) operations, Design is an intellectual process led by the leader to understand the nature of the problem before solving it. Articulated in three stages (visualization of the environment, formulation of the problem and expression of an operational approach), Design is the bridge between conceptual analysis and detailed planning. At the strategic level, it is a facilitator of civil-military dialogue by ensuring the translation of political directives into military action. At the operational and tactical level, it is a tool for understanding complex environments and sharing an operational vision between the chief and his staff.

Involving strong mission preparation requirements, Design reflects the fact that it is fundamental to think before planning, as individual or collective experience is rarely capable of producing counter-intuitive solutions. More than ever, reflection is the prerogative and the means of affirmation of the leader; *cogito ergo praesum*: "I think, therefore I command".

¹Headquarters, Department of the Army, Field Manual FM 5-0, The Operations Process (Washington, DC, Department of the Army Publications, March 2010). The Design concept was partially introduced into NATO doctrine without taking into account the extent of the transformations it implies for the American armed forces (Mission Command philosophy, collaborative techniques, packaging and process optimization C6 [Context, Consultation, Collaboration, Coordination, Control, Unity of Command]).

Frank G. Hoffman, "Conflict in the 21st Century: the Rise of Hybrid Wars" (Arlington, VA: Potomac Institute for Policy Studies, 2007).

³Complex systems are characterized by the multiplicity of actors and the frequency of interactions between them. For more information, see Alex Ryan, The Foundation for an adaptive Approach, Insights from the Science of Complex Systems, Australian Army Journal, Vol. VI, No. 3 (2009), 69-90.

⁴Linear analytical method of the MEDO (Operational Decision Making Method) or MDMP (Military Decision Making Process) type.

⁵Paul Yingling, "A Failure in Generalship. Armed Forces Journal, 2007, <http://www.armedforcesjournal.com/2007/05/2635198>.

⁶The Operational Theory Research Institute (OTRI) is one of the think-tanks that participate in the elaboration of the strategic doctrine of the Hebrew State. Drawing on the thinking of Gilles Deleuze and Bernard Tschumi, OTRI has naturally developed design based on the themes of architecture applied to urban combat in the Palestinian territories. Concerning Brigadier General Shimon Naveh, see the link <http://haaretz.com/weekend/magazine/dr-naveh-or-how-i-learned-to-stop-worrying-and-walk-through-walls-1.231912>.

⁷Maj. William T. Sorrells, "Systemic Operational Design: An Introduction" (Monograph, School of Advanced Military Studies, U.S. Army Command and General Staff College, 2005).

⁸General James N. Mattis (head of the US Joint Forces Command) concluded that the principle of SOR as a central planning process had been abandoned, as it was considered more suited to the US Air Force's targeting cycle than to the use of large, land-based joint ensembles.

⁹Read the bulletin of the French liaison detachment in the USA, Colonel Jean-Claude Bréjot, "Design, a new stage in operational planning", 4th quarter 2010.

¹⁰Colonel John J. Marr's article offers a historical illustration of the Design concept by describing the efforts undertaken by the Chief of Staff Supreme Allied Commander (COSSAC) to plan the reconquest of occupied Europe by German forces. Design the Victory in Europe, Military Review, No.4, July-August 2011, 62-68.

11]Colonel Jean-Michel MILLET, L'Operational Design ou la réflexion avant la planification d'une opération complexe, Héraclès, No.42 (April 2011), 6-7.

Saint-cyrien and cavalryman of the promotion "General Lalande" (1996-1999), Squadron Leader GENNEQUIN commanded a tank platoon in the 501-503rd tank regiment, ^{then a} squadron in the 1st-11th cuirassiers regiment. Instructor at the Saint-Cyr Coëtquidan Schools, he is a graduate of the Superior Staff Course and the US Army Command and General Staff College. Trainee of the Higher Military Scientific and Technical Education of the Army (EMSST), he is currently following a postgraduate course in international ^{relations} at the Institute of International and Strategic Relations (IRIS).

Title :	le Chef d'escadrons Philippe GENNEQUIN
Author (s) :	le Chef d'escadrons Philippe GENNEQUIN
Release date	12/07/2018

[DOWNLOAD DOCUMENT](#)
