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**Title: Mechanisms for change: Generating influence within a comprehensive approach to operations (Paper 166)**

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## **Mechanisms for change: Generating influence within a comprehensive approach to operations**

### **Abstract**

Influence has received considerable attention in the literature on military concepts and doctrine in the last few years. Traditionally, the concept of influence has been applied primarily to the political strategic interface. However, the nature of the contemporary operating environment, and in particular the requirements of a 'comprehensive' or 'whole of government' approach, has made it imperative to consider how commanders can generate influence at the military strategic, operational and even tactical levels. Current research within the recently-established Adversarial Intent Section at Defence Research and Development Canada (DRDC) Toronto is attempting to develop a novel conceptualization of military influence operations situated within an effects-focused approach. This paper will present a working definition of influence operations that is grounded in the generation of psychological and behavioural effects and will argue that, in these terms, all military activities have the potential to generate influence. In developing these themes, we will argue that there is a requirement for an enhanced, more detailed, categorization of effects within what is often termed the 'cognitive' domain, but that more properly should be understood as the 'psychological' domain.

### **Introduction: A requirement for outcome-focused operations**

Influence, however defined, has always been part of military operations. In the literature on military concepts and theory, influence has primarily been considered at the political strategic interface where the threat of or, at least, potential for military action is one avenue for achieving influence, e.g., in the context of deterrence<sup>1</sup>. However, in the context of the contemporary operating environment where there is a requirement for the military to operate in a coordinated fashion with other actors in a 'whole of government' or 'comprehensive'<sup>2</sup> approach, it is essential that this concept be extended to the military strategic, operational and tactical levels of conflict. The concept of 'effects' provides a start-point from which to begin an exploration of influence and forms the basis for the discussion that follows.

Broadly, effects-oriented approaches are outcome- not output-focused; that is, at all levels they focus first on the ends that are to be achieved, rather than on the ways and means by which those ends will be realised. Once the effects have been identified, the activities that will produce those effects can be defined. Ideally, an outcome-focused approach would enable decision makers to remain neutral on how effects are to be delivered until after effects definition. In practice, the set of possible activities that is available to achieve effects is bounded by the choice of entity tasked to produce those effects. For example, when the military is tasked by its political strategic masters to conduct operations in pursuit of specified objectives, this tasking necessarily bounds the available solution set to those solutions that the military has capability to deliver<sup>3</sup>. Once military forces have been deployed in pursuit of political aims, rules of engagement that constrain how force may be employed will further bound how the objective can be met.

## What is an effect?

Surprisingly perhaps, much of the recent debate on the concept of effects has placed only limited emphasis on defining the term 'effect' itself, preferring instead to focus on 'umbrella' concepts such as Effects Based Operations. However, a definition of 'effect' is central to the present discussion. Two definitions are provided here for illustration and are used as the basis for the discussion that follows. Edward Smith<sup>4</sup> provides a broad definition of an effect as:

- *"A result or impact created by the application of military or other power"* (p111).

Smith stresses that this definition implies that effects can be either physical or psychological<sup>5</sup> in nature. In its doctrinal note on the effects based approach, the UK Development, Concepts and Doctrine Centre (DCDC)<sup>6</sup> provides the following definition of 'supporting effects'.

- *"Changes brought about by the interplay of deliberate activities and dynamic circumstances that contribute to the realization of decisive conditions"*. (p1-5).

This definition captures some very important aspects of 'effects', notably:

- Effects are 'changes'.
- These changes are caused.

If a systems analogy is used to represent the operational context including all actors, then activities can be considered to be one class of inputs<sup>7</sup> to that system. Moreover, the effects produced are a function of the system's state at the time of the input as well as the input itself. It is interesting to note that the DCDC definition does not explicitly state what is changing when an effect has been enacted. By invoking a systems analogy, we can propose that effects are changes in system and sub system state. This allows us to further propose that:

- The causal factors that precede change include:
  - a. inputs<sup>8</sup> to the system
  - b. system or sub-system state at the time of the input
  - c. changes in system or sub-system state

Since changes in system state themselves constitute effects, then we can conclude that effects can, in some circumstances, be causal factors of subsequent effects. Likewise, initial activities may be causal factors but in a complex chain of effects they are also likely to constitute intervening effects, in the sense that they are reactive to the initial situation. Thus, there is an implication that effects contribute to further effects and this leads to consideration of first, second, and n<sup>th</sup> order effects. Much of the challenge of -- and recent disappointment in -- attempts to apply effects based approaches to operations stems from the realization that the contextual 'systems' that the military interacts with are complex and opaque in nature, rather than linear, explicit and predictable<sup>9</sup>. In a simple system, effects may follow one another in serial but in

conditions of complexity, the causal chains will be extremely difficult to define a priori. Higher order effects are central to the notion of influence and will be considered again later in this paper.

Based on the above discussion, a working conceptual definition of 'effect' is proposed that attempts to include all types of effects:

- "Changes in a system or sub-system caused by the interaction of inputs and system state".

This definition implies that altering the system state, for example its context or circumstances, can be a route to achieving desired effects: for example, altering the context in which an adversary acts rather than impacting the adversary directly. This working definition provides a basis for thinking about effects and will be used in the rest of this document.

### **Activity and effects**

Two categories of activity, 'fires' and 'influence', and two categories of effects, 'physical' and 'cognitive', are delineated in DCDC's doctrinal note. These effects categories are equivalent to those proposed by Smith, although he used the term 'psychological' instead of cognitive<sup>10</sup>. We have adopted this broad categorization of effects and propose the following working definitions:

- physical effects involve a material change and directly impact capability and capacity;
- psychological effects are changes in will and understanding.

Using these new definitions allows us to keep activities and effects independent. These categories will be used here in a loose and relatively literal sense. For example, the destruction of a building will constitute a physical effect. Questions such as whether a change in capability is a physical effect or is, in fact, a derivative, second-order effect following a physical effect, need to be addressed. Finally, we propose that a third category with the working title of 'behavioural' effects be added and defined as follows:

- behavioural effects are changes in human action.

**Attributes of effects:** In order to improve our theoretical understanding of effects, it is important to identify and clarify the attributes upon which effects may vary. A number of key attributes are outlined below. However we stress that these are not presented as an exhaustive list, but rather are provided as examples:

- Object – what is it that will change?
- Certainty – how likely is the change given the specific input?
- Scope – how widespread is the change? For a physical effect, scope might involve the difference between destruction of one building and the razing of an entire city block. For a psychological change, we may ask

whether the change will be in the mind of one person or whether it will be manifest in a collective such as a group or an organization.

- Depth of penetration – psychologically, this may be thought of as the extent to which an event changes a discrete opinion, or whether it fundamentally alters an individual's or a group's belief system. The physical sequel is associated with the level and reversibility of physical change. This links to:
- Longevity – the duration of the effect, which will most likely be a function of success. For example, for a tactical deception to be successful, the effect that underpins it may need to last only a few minutes. A cultural change, however, would likely need more time to succeed. In turn, this links to:
- Robustness – it is essential to consider the extent to which a change is durable as opposed to fragile or brittle. In particular, this is important where the effect represents a single point of failure if it were reversed. The susceptibility of a change to future unplanned events should be considered.
- Valence – it is important to consider the way in which a change will be interpreted by all parties concerned. In simple terms, a change may be deemed to be positive, neutral or negative, and may sometimes be interpreted differently by different groups or individuals.

**Expressing effects:** In practice, effects must be expressed in concrete rather than abstract terms. Moreover, they should be expressed in terms of a subject. Effects should not be expressed in terms of the activity that will cause them. Thus, it is essential to state:

- who or what is the subject that will change,<sup>11</sup>
- what is the nature of the change in state of that subject, and
- what are the implications of this change for the system as a whole?

The following sentence provides an example:

- *Warlord A stops engaging in unlawful activity X and as a consequence villages in Province Z are safe.*

It should be noted that this effect represents an end state (albeit one that might constitute an interim state in a larger plan) that might be brought about by a chain of activities and intervening effects. Moreover, this statement is actually an expression of two effects: a primary change in the Warlord's behaviour and a subsequent change in the security of the villages.

**Expressing activity:** As implied earlier, a number of different activities could have caused the change described in the statement above. Thus, once a required effect has been expressed, there is a further requirement for an explicit statement of the activity or activities that will bring about that effect. In the

simplest cases, the subject of the effects statement will be the direct object of a corresponding activity statement.

1. *Sub Unit Y uses physical restraint to arrest Warlord A.*

Alternatively, consider a second example where the subject is not the direct object of the activity statement.

2. *Precision guided munitions are used to attack a legitimate yet relatively insignificant target very close to Warlord A's HQ.*

This second activity might have the same behavioural effect of ultimately stopping Warlord A from doing X, with the same overall implications of bringing safety to villages in Province Z. In this case, however, the mechanism differs. Although the initial aim in the second activity is to achieve a first-order physical effect on the target, the real motive is to invoke a psychological effect in Warlord A by demonstrating his vulnerability to attack and the blue force's interest in him. The behavioural effect, namely, Warlord A's choice to desist his illegal activities and thus reduce his profile, is a third-order effect.

With effects and activities established as independent concepts, we can furthermore ask whether there are particular associations between some categories of activity and some categories of effect. The hypothesis proposed here is that all categories of effect can be elicited by all categories of activity.

### **Mechanisms for change**

The above discussion of the outcome-focused philosophy implies that there is generally more than one route to reach any particular end state. For example, US victory in the Pacific theatre of operations in World War II (WWII) might have been won through a long series of tactical battles culminating in an invasion of the Japanese Islands. Less likely, but not impossible, might have been some form of diplomatic and economic settlement. In reality, nuclear weapons were used to achieve the aim. Thus, a defined end state might be achieved through the intermediate achievement of a range of different effects and different activities. In theory, the same end state might be reached by a single activity-effect pairing, or a complex network of activities and corresponding higher order effects.

At first glance, it might appear that planners should seek the simplest and most economic route to the required end state. However, even a cursory examination of contemporary military experience demonstrates that it is essential to consider the ways in which tactical ends are met in order to enable the achievement of strategic ends. The connection between tactical ways and strategic ends has been partly addressed in the well-established field of 'operational art'. English<sup>12</sup> notes that "application of the operational art allows military professionals to orchestrate campaigns that link tactical actions with strategic objectives." He quotes US doctrine that defines Operational Art as "the use of military forces to achieve strategic goals through the design, organization, integration, and conduct of theatre strategies, campaigns, major operations, and battles" One of the aims of current DRDC research is to examine the adaptation of operational art needed

for a whole-of-government approach. English quotes Canadian Forces doctrine where it is noted that “operational art requires commanders with broad vision ... and a careful understanding of the relationship of means to ends”. Thus a key question is how non-military means are harnessed in the delivery of strategic objectives.

In today’s delicate political strategic environment, the ways in which military campaigns are conducted is often of central importance to achieving the conditions necessary for immediate and long-term success. For example, as Gaddis<sup>13</sup> points out, Red Army brutality during its invasion and occupation of East Germany during the latter stages of WWII had long-term consequences: “The effect was to alienate almost all Germans, and thus to set up an asymmetry that would persist throughout the Cold War: the regime Stalin installed in the east lacked the legitimacy its counterpart in the west would quickly gain.” (p.24). In conflict and post-conflict environments, the overall impression provided to the host (and home) nation population is critical. Ultimately, the aim of military intervention is to shape the intent and behaviour of defined ‘targets’ such as individuals, organizations, and societies. Clearly, achievement of overall campaign aims may require that these are shaped by means other than direct physical intervention and constraint. Military organisations require the capability to guide specific targets in the adversary and neutral populations in the direction of behaviour that is consistent with the commander’s objectives. The tools that enable this broad approach include solely-military capabilities such as Psychological Operations. However, it is also clear that within a comprehensive or whole-of-government approach, military inputs will need to work in collaboration with inputs by other actors, for example economic or political intervention by other branches of government.

### **Distinguishing different mechanisms for change**

The earlier examples of alternative activity-effects pairings provide the basis for differentiating between two broad classes of mechanism. The distinction is based not on categorisation of activities (for example, kinetic vs. non kinetic; physical vs. informational) but rather on certain characteristics of the mechanism through which the target is affected. These mechanisms, which comprise a network of activities (inputs) and intervening effects that lead to a specific target effect, can be defined by their top-level characteristics. The two proposed are entitled ‘Control’ and ‘Influence’.

**Control:** Control is defined by a direct link between some action (system input) and a behavioural change on the part of a target. Actors choose this first class of mechanism when they wish to affect a target’s behaviour *directly* in order to disable it, to stop it, to change it, or even, in some cases, to maintain it. This class of action has two fundamental characteristics. First the target is offered little choice in how to behave, or at least the options are reduced to eliminate those that are unacceptable to the actor. Second the behaviour that is elicited is likely to be contrary to the target’s overall intent, although this is not a critical defining characteristic. To achieve control, the actor shapes the environment in such a way that only the behaviour desired by the actor is possible. This mechanism is

independent of activity. Physical activities, for example the destruction of military hardware or construction of impassable defences, can certainly be used to achieve control. However, this mechanism might also be realized by manipulation of information that constrains the target's choice set -- for example, effectively 'blinding' an adversary by flooding a command and control system with irrelevant and distracting information. Control is characterized by:

- absence of choice,
- behavioural change in the absence of psychological change,
- no necessity for change of target intent.

***Influence:*** The alternative mechanism focuses on shaping behaviour by leading the target to choose courses of action that are conducive with the actor's desired end state (or interim state). This mechanism focuses on shaping intent and it tends to be realized by managing the target's understanding of the campaign environment in some way. In general, this approach is reliant upon achieving a psychological change in the target. Thus it focuses on what the target senses and perceives, and how the target combines this information with pre-existing knowledge and beliefs to construe the present and anticipate the future. Most importantly, the psychological change that is achieved is designed to shape the target's intent. The desired behaviour is ultimately realized through this shaping of intent. Many different activities, military and otherwise, can be used to achieve psychological change. For example, a target may be presented with information that improves its knowledge and understanding of a topic, e.g., via a Psychological Operations (PSYOPs) campaign. In another case, knowledge and understanding may be improved indirectly via demonstration – for example, by bombing the area near to an adversary position they may come to appreciate their vulnerability and come to the decision that it would be wise to surrender or to withdraw with no loss of life. Equally, an actor may wish to skew or to distort a target's understanding, perhaps via deliberate deception or by the release of information that conveys only certain elements of the truth. As before, it is essential to recognize that the means by which this can be achieved are varied and may include both physical and non-physical activities. To summarize, the influence approach is characterized by:

- choice and volition on the part of the target,
- behavioural change as a second order effect following psychological (e.g. cognition, attention, perception) change,
- the shaping of intent,
- manifestation of intent in desired behaviour.

The first example provided earlier illustrates control. Warlord A has no choice in how to act even though his intent may not have changed. Simple physical means (prison and weapons) are used to achieve the effects. Warlord A is both the subject of the effects statement and the object of the activity statement. The second example illustrates influence. Here, a psychological change is invoked in



Warlord A, with a view to guiding him to a behavioural change. It is also noteworthy that physical means are employed.

### **The challenge of influence analysis**

Within an outcome-focused approach to a campaign, there is a need to consider how defined outcomes can be achieved based upon a number of 'supporting effects' on specified targets, as well as the inputs that are required to achieve those effects. Thus, in theory, planning within an effects based philosophy necessarily involves a clear description of the system and subsystems within which military forces are operating. This allows the definition of a series of cause - effect relationships initiated and guided by activity. This approach is already an integral part of recently-developed military processes such as Systemic Operational Design and the Operational Net Assessment; however, there is a danger that these approaches have been 'oversold' to a military audience unfamiliar with the complexities of the social sciences. Understanding the target has always been a central requirement of military art. Traditionally, the focus has been on effects in the physical domain, such as capability degradation by destruction of equipment. In this domain, cause - effect relationships (e.g., the effects on a hardened aircraft shelter of a particular type of shell delivered in a certain way) are relatively predictable.

In contrast, the behavioural, social, and cognitive sciences cannot yet provide the theoretical foundation required to predict specific cause - effect relationships fully. Indeed, some psychologists, such as Ross and Nisbett,<sup>14</sup> have expressed considerable pessimism regarding the likelihood of ever being able to do so: "We accept the fact that social psychology is never going to reach the point of predicting how any given individual (even one that is well known to us) is going to react in a given novel situation. A corollary of this concession is that the application of social science knowledge is always going to be a risky business". Even acknowledging this, the science base that does exist has rarely been used in a systematic fashion to achieve valid and reliable military analyses of the minds of specified humans. As such, there is little standardized military language for describing and communicating key parameters relating to individuals, groups and populations. These specific capability gaps and others are particularly apparent in the context of recent military focus on influence of target audiences, both individual and collective, in the contemporary operating environment. One important manifestation of these gaps is the difficulty militaries experience in evaluating their activities in terms of success (or lack thereof) in causing defined effects, especially where those effects constitute changes to some cognitive, social, or cultural parameter.

The ability to achieve campaign success through influence, that is, guiding an adversary to act appropriately using a minimum of physical violence, may provide the key to strategic victory. However, effective use of influence is reliant upon the adequacy of the analysis that informs the design of friendly force's military (and other) activities in the campaign space. Research and development work is required to ensure that the best possible tools and techniques for conducting individually-focused intelligence assessments are available and that military

personnel are well trained for the required collection, assessment, and effects design tasks.

Influence analysis must also proceed at the collective level -- for example, focusing on group, organizational and societal variables. Again, this endeavour is likely to be hampered by the relative immaturity of the social and behavioural sciences. Nevertheless, there are substantial literatures that can certainly be exploited in this pursuit, for example in the fields of small group processes, organizational theory, and social, cultural and religious studies. Moreover, influence analysis is already an established technique in the fields of psychological operations and information operations where target audience analysis is an essential stage in the production of influence products. The challenge for researchers in this domain is not to convince operators of the value of analysis; rather, it is to bring forward novel, theoretically-based tools, techniques, and knowledge that enhance this existing capability.

## **Conclusion**

Influence always involves a psychological effect which may or may not produce a behavioural effect. Influence does not involve a change in the target's choice set; the same range of options is open to him, her, or them. The change is in the way the target perceives the environment and the choices and it is this perception that alters behaviour. Thus, influence is directly concerned with the notion of intent. Influence involves modification of the target's understanding of the world, whether that target is an individual or a group. Conceptually, therefore, influence is concerned with a range of interventions from those that seek to improve a target's understanding by providing new and accurate information, through those that seek to limit understanding, for example by directing attention or discrediting a source of accurate information, to those that seek to deceive by the introduction of false information. It is clear that deception is therefore an important mechanism of influence, although certainly not the only one. Nevertheless, in the contemporary operating environment, influence is most likely to be achieved by spreading and emphasizing valid information.

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<sup>1</sup> Schelling, T. (1966). *Arms and influence*. New Haven and London: Yale University Press.

<sup>2</sup> This description is perhaps more appropriate than 'whole of government' given that many essential contributions come from non-government organization. Other terms that have been used in relation to this topic include consideration of DIME (diplomacy, information, military, economic) in the US and 3D (defence, diplomacy, and development) in Canada.

- Robert David Steele *INFORMATION OPERATIONS: PUTTING THE "I" BACK INTO DIME* (February 2006) ISBN 1-58487-228-4 <http://www.StrategicStudiesInstitute.army.mil/>
- Department of Foreign Affairs and International Trade (2005). *Canada's international policy statement: A role of pride and influence in the world. Overview*. ISBN 0-662-68608-X [www.international.gc.ca](http://www.international.gc.ca)

<sup>3</sup> Arguably, in the past, military forces have been deployed to situations where they did not have the ability to deliver the desired objectives. As Rupert Smith points out "Force can be used to advantage only if its utility in the circumstances is understood." The deployment of military forces (sometimes with little room for manoeuvre within tight rules of engagement) as a default response to situations where public opinion required that 'something must be done' has been a topic for debate since the 1990s at least and has led to concerns regarding the military's apparent encroachment on 'humanitarian space'.

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- Smith, R. (2005). *The utility of force*. London: Penguin Books.
  - Barry, J. and Jefferys, A. (2002). *A bridge too far: Aid agencies and the military in humanitarian response*. London: Overseas development institute.

<sup>4</sup> Smith, E. (2002). *Effects based operations: Applying network centric warfare in peace, crisis, and war*. Washington DC: CCRP Publications Series.

<sup>5</sup> Definitions of 'psychology' and 'psychological' are many and varied. It is quite reasonable to incorporate behaviour within these terms. For the purposes of developing a useful classification of effects however it will be important to stress a difference between behavioural effects and those that are solely mental.

<sup>6</sup> UK DCDC (2006, September). *Incorporating and extending the UK military effects-based approach*. Joint Doctrine Note 7/06.

<sup>7</sup> Arguably, all actors are part of the overall system so all inputs are internally generated. However, assuming the overall system is composed of many sub-systems, then activities generated by one sub-system that impinge on another can be considered to be externally generated inputs to that sub-system.

<sup>8</sup> In Smith's discussion, the term stimulus is occasionally used as equivalent to input. This term has been consciously avoided in the present discussion to avoid any connotations of behaviourism.

<sup>9</sup> Indeed, it is quite possible that effects based thinking will contribute most effectively for the foreseeable future to the development of military concepts and will have a less direct input on military TTP. Commander JFCOM's recent response to EBO provides an example of the danger of over extending concepts into applications.

<sup>10</sup> The term 'psychological' is broader than 'cognitive'. Moreover, it should be noted that 'cognitive' is part of 'psychological'.

<sup>11</sup> This may provide us with another opportunity to classify effects. In this case into: i. direct effects where the subject of the effects statement is the object of a subsequent activity statement and ii. indirect effects where the subject of the effects statement is not the object of the subsequent activity statement.

<sup>12</sup> English, A. (2005). *The operational art*. In A. English, D. Gosselin, H. Coombs, & L. Hickey (Eds.) *The operational art: Canadian perspectives: Context and concepts*. Kingston: CDA Press.

<sup>13</sup> Gaddis, J. L. (2005). *The Cold War: A new history*. London: Penguin Books.

<sup>14</sup> Ross, L. and Nisbett, R. (1991). *The person and the situation: Perspectives of social psychology*. New York: McGraw Hill.