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Effects-Based Operations

A Military Application of Pragmatical Analysis

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Editorial Abstract: Dr. da Rocha presents a Brazilian perspective of the relationship between pragmatical analysis and effects-based operations (EBO), showing how the former encompasses the latter's typical features and provides insights into some aspects of EBO. He notes that any set of connected purposive actions is a collective work and must be considered from multiple standpoints. A successful planner must be aware of these different frameworks and their interrelationships.

The concept of effects-based operations (EBO) is key for the US military. Arguably, one can trace its roots back to World War II, perhaps even earlier.¹ In a sense, this should not surprise us because planned actions, in war and elsewhere, are supposed to be rational and purposive—and every rational, purposive action purports a foreseeable effect.² This comment, however, is not trivial. Even though purposive action is connected to its effects, many questions arise regarding an action's true effect and awareness of undesirable side effects that could accompany the desired effect. Perhaps the key issue lies in determining an action's true effect because—as Lt Col Antulio J. Echevarria II points out—actions always have “first- and second-order effects.”³ The very important issue of determining the truly desired effect—critical to military planning—differs from determining an action's true effect. However, because the desired effect depends on how the repercussions of first- and second-order effects change the environment—political, economic, military, and sociocultural—both issues are intertwined.

The relevance of “effects” for military purposes, both regarding their connection with the actions that are supposed to generate them and considering their contribution toward a final goal, prompted Col Edward Mann, Lt Col Gary Endersby, and Mr. Tom Searle to call for “a fully developed theory grounded in effects-based thinking.”⁴ One could expect the conception of such a theory to follow two different trends. The first and more obvious one would involve creation of a comprehensive military theory of planning and warfare grounded in and permeated by effects-based thinking. Military thinking is already developing such a program, mainly in the United States. A second view would draw from research on the theoretical foundations of effects-based thinking. Even though this type of theoretical approach might seem less practical, it could prove useful when one applies its principles and findings to military issues.

This article takes the second approach, suggesting that effects-based thinking can apply to any planning of social actions, including military actions; it is embedded in a broader theory whose philosophical roots owe much to the tradition of American philosophical thought. This

approach is not a mere academic exercise. By displaying the typical pattern of rational-purposeful acting, it can help distinguish between military and nonmilitary entities in an effects-based view of war.

During my tenure at the Brazilian National War College from 1986 through 1992, I developed a theory called pragmatism analysis. Even though it never became part of the methodology used at the college, one can apply it to governmental development policies to understand why many such policies that should have succeeded did not. The theory's usefulness became apparent when I presented a paper on Brazilian education, specifically using pragmatism analysis as a tool, at the VI National Forum held in São Paulo, Brazil, in 1993.⁵ This article discusses the relationship between pragmatism analysis and EBO, showing how the former encompasses the latter's typical features and suggesting that it could possibly shed light on some aspects of EBO studies.

Effects-Based Operations: Concept and Essential Features

Maj Gen David A. Deptula describes EBO as a “campaign-planning philosophy [through which] the military planner uses superior knowledge to avoid attrition encounters, applying force at the right place and time *to achieve specific operational and strategic effects*” (emphasis added).⁶ Colonel Mann, Colonel Endersby, and Mr. Searle point out the main advantage of EBO: “Focusing on the conditions desired—the effects—*to achieve assigned objectives enables one to avoid focusing on pseudo-objectives*, such as destruction” (emphasis added).⁷ Colonel Echevarria adds that “US Joint Forces Command . . . defines EBO as ‘a process for obtaining a desired strategic outcome or “effect” on the enemy, through the application of the full range of military and non-military capabilities at the tactical, operational, and strategic levels.’”⁸ A complementary definition of *effect* describes it as the “physical, functional, or psychological outcome, event, or consequence that results from a specific action or actions”—a good, broad definition that we can use for the purposes of this article.⁹ Colonel Echevarria goes on to say that “the Air Force currently has a vision of EBO that differs from that of the J9.”¹⁰ The US Air Force Doctrine Center, located at Maxwell AFB, Alabama, currently uses the following definition for EBO: “Operations that are planned, executed, assessed, and adapted *to influence or change systems or capabilities in order to achieve desired outcomes*” (emphasis added).¹¹ Even though these views differ in certain details, arguably the current -usage of EBO by the US Air Force covers the concept's essential meaning, which involves the following:

- influence or change
- desired outcomes
- achievement

Influence or change results from applying power. However, if one plans the application of power, there ought to be some knowledge about *how things happen* in the world. Since such knowledge is theoretical in nature, one must validate it by real experience. Good, well-established theories allow us to calculate the effects of some actions in a notional universe that disregards all influences not considered by the theory. In the physical sciences, this approach often proves successful. However, the probability of success decreases when one considers human action that affects people.

In economics, for instance, theoreticians and analysts like to secure their calculations against criticism by using the Latin term *ceteris paribus* (“if everything else remains unchanged”) as a disclaimer—that is, by disregarding all phenomena not included in the theoretical calculations. However, any human action has a communicative content; it reveals some intention from the agent. When interested people discover such intention (whether rightly or wrongly), they change their minds and intended course of action to anticipate changes in the environment in order to make it the most favorable for their interests. Thus, *ceteris paribus* occurs only very rarely in real life. On the other hand, one must distinguish between *immediate effects* (first-order effects; henceforth referred to as the action’s *products*) and *mediate effects* (second-order effects; henceforth referred to as the action’s *outcomes*). Sometimes a desired product can serve as the means to a most undesirable outcome. Furthermore, a desired outcome can result from an uncomfortable product.

Looking at the US Air Force’s EBO concept, one can perceive an emphasis on outcomes. Indeed, one finds products easier to foresee than outcomes. For instance, since every bombing produces destruction, one easily foresees destruction during the planning of a bombing mission, and it seems natural to assess bombings by measuring the destruction they have produced. However, even before EBO became prominent in military thought, military planners knew that destruction was only a means to obtain more complex results—denial, interdiction, paralysis, awe, and so forth. Thus, one must consider the multibranched path that leads from a product to multiple outcomes.

In fact, a military product may generate a cascade—and it often does—of political, economical, and sociocultural outcomes (and military ones as well). In such a case, it could well happen that a desired political outcome has to live with an undesired sociocultural outcome. The recent military victory of the US-led coalition in Iraq offers examples of such situations. So the question lies in determining what *desired outcome* means or in isolating this outcome by blocking the undesired ones that come from the same product.

The third key feature of EBO—achievement—differs from producing if we accept the meanings suggested above for both words. To achieve is to attain a previously established goal. It is comparatively easy to anticipate the achievement of first-order effects or products. However, it is much more difficult to foresee outcomes because they are diverse in nature and extended in time. The more extended in time the outcomes, the more influenced by future events they will be, and one cannot foresee most of these events without a deep scrutiny of circumstances, which necessitates multifarious, specialized examinations.

Thus, understanding the meaning of achieving a desired outcome depends on

- defining the desired outcome,
- assessing the probability of attaining the desired outcome because of circumstances resulting from a given product,
- assessing the probability of whether or not factors beyond one’s control will disturb attainment of the desired outcome,
- assessing the convenience of all the compounds of outcomes that one could derive from a given product,

- verifying the possibility of isolating the desired outcome from other equally probable, undesirable ones, and
- getting the product from which the desired outcome would derive as a result of a planned development of circumstances.

So EBO essentially depends on (1) distinguishing between products and outcomes, (2) knowing most precisely the relationship between products and outcomes so as to assess the probability of a desired outcome, and (3) getting the product that originates the cascade of events leading to the desired outcome. However, none of those conditions mentioned above is typically military. They become a military issue when actions under scrutiny are military actions, when the actors are military, and when the desired outcomes represent the accomplishment of military goals or serve as intermediate steps to attain victory in war.

Some questions arise about the meaning of “military actions” and “military actors.” The standard usage of language distinguishes between typical military actions and other actions related to achieving military goals; it also distinguishes between military actors and civilian actors performing actions that are part and parcel of military operations. So the usage originates a discussion about the status of *other actions related to achieving military goals* and *civilian actors performing actions that are part and parcel of military operations*. Should we include them among military actions and military actors? These questions will become clear later in the article. For the moment, one must recognize that EBO has some features dependent on their military purpose but certainly has some other features—which one could call *structural features*—typical of any set of rational-purposive coordinated actions. Let us see how pragmatism analysis can enlighten our discussion.

Pragmatism Analysis: Basic Tenets

Pragmatism analysis is based on tenets that derive from pragmatism—the philosophical doctrine founded by American philosopher Charles Sanders Peirce, whose views favor actions’ outcomes as the source of meaning to actions and establish intersubjective communication as a choice means for controlling the objectivity of any perception.¹² On the other hand, pragmatism analysis also derives from the ideas of American sociologist Erving Goffman, who states in his book *Frame Analysis* that “any event can be described in terms of a focus. . . . Different interests will . . . generate different motivational relevancies. . . . My aim is to try to isolate some of the basic frameworks of understanding available in our society for making sense out of events and to analyze the special vulnerabilities to which these frames of reference are subjected.”¹³

In Goffman’s view, reality is a complex construction that can be analyzed differently from diverse perspectives, each one illuminated by a focus determined by the interests that generate its motivational relevance. The same fact could appear differently—for instance—to a military analyst, to a political analyst identified with the interests of the political group in power, and to a political analyst identified with the interests of the political opposition. According to Goffman, in order to understand the perceived reality, one has to decompose it into superimposed frames, each one illuminated by a different interest, whose superimposition creates a pattern viewed as reality—complex, somewhat blurred, and many times contradictory. To understand what is going on here, we must separate these frameworks to restore each one’s intrinsic logic (which could be contradicted by some other’s own logic).

However, one must be aware that none of these frameworks alone represents reality, so we cannot get rid of “uncomfortable” frameworks. Planners in any kind of activity should know all of them so as to avoid unexpected inconveniences. One also must be aware that even within a particular framework, there is no guarantee that reality could display such comfortable features as linearity and noncontradiction.

One can establish the basic tenets of pragmatism by combining Peirce’s and Goffman’s views. The following concepts occur throughout this article: *Actions* are processes that bring about changes in the world; intervening is a promotive element identified as the will of an actor. An *actor* is the entity, physical or notional, whose intervention is necessary (and usually sufficient) to perform an action.¹⁴ We must distinguish between an actor, which can be a notional entity consisting of people, and an *agent*, the person who is actually an action’s efficient cause.¹⁵ Agents can be actors or elements working for an actor. Actors can be collective, complex entities like the government, the Air Force, or the nation as a whole. However, one must bear in mind that any collective actor can perform actions only through agents; collective actors cannot perform actions without the mediation of their agents—that is, people.

Individual purposive actions are connected to a person’s will. Individuals can display their will in two ways: (1) agents can openly declare their intentions, or (2) one can find out their intentions by discovering some consistency in their courses of action, which appear as coordinated actions aiming at a goal. We will call the first way of establishing intentions *rhetorical*, the latter *pragmatical*. Because our language reflects views about the world that are consolidated in social conventions and transmitted through the education process, as a rule we classify as rhetorical the verbal discourse about what is going on, as well as all the implied justifications for actions, which we could present if necessary. Indeed, all of them—language and social practices that underpin everyday experience and social order—are subjected to the constraints of conventions, rules, agreements, and expectations that undergird a social order. For instance, if we do not officially recognize a country as our foe, we should not be rhetorically hostile toward it, even when we deem such a country a threat and prepare actions to curb its power. Thus, rhetorical definitions and pragmatical definitions often do not coincide.

As a rule, pragmatical definitions depend on the action’s outcomes. So an action’s outcome gives the action pragmatical meaning; an actor’s actions (including the action’s outcomes) determine his or her pragmatic identity; and the actor’s interaction with other actors determines his or her social meaning. Thus, pragmatical definitions will depend strongly on frameworks because the same action can have different outcomes in different frameworks. Indeed, actions bring about a cascade of results that develop in a multibranched path, supposing that we distinguish each path according to specific interests. For instance, when the Syrian government announces the withdrawal of its troops from Lebanon, the event generates two different progressive happenings in the framework of a pro-Syrian analysis and in the framework of an anti-Syrian analysis. Because pro-Syrian and anti-Syrian political forces actually exist in Lebanon, we must expect that both analyses will correspond to real-world developments, even though they can be contradictory and conflictive.

However, if an international treaty or United Nations Security Council resolution imposes such a withdrawal as a legal requirement for acknowledging Lebanese *de facto* autonomy, the anti-Syrian framework would “win.” That is, the juridical framework—the framework illuminated by the interest in keeping a formal legal order—would replicate its main features.

For rhetorical purposes, the juridical framework must be the only framework recognized, even though the pro-Syrian segment of the population remains active and able to produce outcomes. In fact, no pragmatically relevant framework is extinguished only by solemn promises. Thus, any planner has to pay attention to two orders of reality. In the actual reality, many frameworks exist and have to be considered. But any action to be performed should comply with a juridical reality, which means commitment to the ideal of an agreed legal order to be preserved. The juridical framework constrains the rhetorical description of how things are going on.¹⁶

Because the pragmatic meaning of an action depends on the framework and because an actor is pragmatically identified by his or her actions, actors appear differently in different frameworks. However, the actors have only one juridical identity. So the planner has to consider that actor, which is the same for juridical purposes, differently because he or she is not pragmatically the same in different frameworks. On the other hand, if actors are pragmatically different in different frameworks (and they are because their actions' meanings are diverse in different frameworks), their relationship will also depend upon the framework considered. Consequently, the actor's social meaning may change when frameworks change.

Features and Dimensions of Purposive Actions

Purposive action is key to pragmatic analysis because all pragmatical definitions are related to actions' outcomes. Thus, one needs to further examine some of purposive action's features. Every such action has two dimensions: concrete and symbolic. The action's concrete dimension refers to its effects in the physical realm—its ability to change the physical world. The action's symbolic dimension refers to how one can perceive its meaning.

Again, we must distinguish between the action's conventional meaning—asccribed to the action according to some established social rules—and its pragmatical meaning, which depends on its expected outcomes and the analyst's judgment about these outcomes according to different frameworks. The action can differ, according to the framework, both in the concrete and symbolic dimensions; however, the latter usually presents a greater spectrum of variation. In fact, the action's symbolic dimension depends on interpretation, which is illuminated by different interests. It is not uncommon for interpretations to diverge considerably when made by the performer, the person or group most directly affected by the action, and by third parties.

The Success of Purposive Actions

The success of a purposive action is a pragmatical issue. For example, in a third world agrarian country, first-grade students used to attend classes three hours a day. During the remaining time, they would help their parents with the work on the farm. A secretary of education—with a PhD in education from a first world university—knew that increasing their daily time in school would improve the students' scholarly skills. As a result, he decided to require children to stay in school for six hours a day. The secretary's good intentions triggered massive dropouts, with a consequent increase in illiteracy because the parents who tolerated letting their children stay away for three hours a day decided that staying six hours was way too long. This example shows the blatant difference between the theoretical product of a decision and its pragmatical outcome. Ideally (*ceteris paribus*)—if the economic environment could dispense with the children's work, or if the parents were aware of the advantages provided by education, or if the law could compel children to stay in school—the technical

decision of increasing the students' daily time in school would have been a success. In real life, however, the outcome—what actually happened—was a failure.

So when it comes to the success of a purposive action, we must look at the outcomes. On the other hand, products, which one can theoretically link to actions that originate them, are easier to predict. The link between products and outcomes is a causal path: products of an action are themselves causes of effects, which are causes of other effects, and such causal chains bring about outcomes, which are eventual results from the first product.

However, one must be aware that the first product is not the only cause of the final outcome; many intervening events that can occur later can have a determinant influence on the final result. Moreover, the causal chain's evolving path is multibranched—that is, many parallel causal chains evolve from the same product. Further, the process is a composite of many actions whose concrete and symbolic dimensions one must assess in several frameworks. A successful purposive action must (1) bring about a desired outcome and (2) do so without originating undesired consequences. Such a result must hold true in all relevant frameworks.

For clarity's sake, one can depict the connection between an action and its effects—which means, in this case, products *and* outcomes—as follows:

1. The intended, expected effects are brought about by the action purposively performed to produce such effects, without undesired consequences. We call such an action *successful purposive action*.
2. The intended, expected effects are brought about by the action purposively performed to produce such effects, but undesirable effects (usually unexpected) also result from the action. We call such an action a *successful purposive action with negative side effects*.
3. The intended, expected effects are brought about by the action purposively performed to produce such effects, and unexpected, desirable effects also result from the action. We call such an action a *serendipitous action*, which is a successful action with unexpected, positive side effects.
4. The action performed fails to produce the intended, expected effects, with or without undesired consequences. We call such an action an *unsuccessful purposive action*.

The following are several kinds of unsuccessful purposive actions:

1. *Partly unsuccessful actions*, which do not completely achieve the desired effects, even though no unexpected effects occur.
2. *Partly unsuccessful actions with positive side effects*, which do not completely achieve the desired effects, but do produce some unexpected, desirable effects.
3. *Partly unsuccessful actions with negative side effects*, which do not completely achieve the desired effects and bring about unexpected, undesirable effects.

4. *Frustrated actions*, which do not achieve the desired effects at all and do not bring about unexpected, undesired effects.

5. *Frustrated actions with negative side effects*, which do not achieve the desired effects at all and bring about unexpected, undesirable effects.

6. *Frustrated actions with positive side effects*, which do not achieve the desired effects at all and bring about unexpected, desirable effects.

Unsuccessful purposive actions can arise from three diverse circumstances, which can occur separately or jointly:

1. The action performed can bring about unexpected effects or fail to generate the desired effects because of a mistake in its performance. This is usually called human failure.

2. The action performed can bring about unexpected effects or fail to generate the desired effects because the ideas about how things happen in the world (generically referred to as explanatory theory) do not apply to the circumstances. This is usually described as a wrong application of a right explanatory theory.

3. The action performed can bring about unexpected effects or fail to generate the desired effects because unanticipated effects spring naturally from the performed action. In this case, one does not dispute the application of an explanatory theory, but the theory proves wrong.

Complexity of Purposive Actions

Regarding the importance of the effects intended for the desired end state, one could classify purposive actions as *determinant*, when they are directly connected to the achievement of the desired end, or *mediative*, when they constitute only an intermediate step to make possible other actions more directly connected to the achievement of the desired end state. Being determinant or mediative is not an action's property; it depends on the goal to be attained, the way chosen to attain such a goal (the word *purpose* will be used to combine the goal and way to reach the goal), and the explanatory theory used—that is, how the actors suppose that things happen in the world.

For instance, when the US government decided to treat Panama's Gen Manuel Noriega as a common drug trafficker, it tried to overthrow him by diplomatic and economic actions. Such actions would be mediative—to eventually bring him to an American court as a private person. The explanatory theory of international relations that inspired this approach would suppose that economic and diplomatic pressure would prove sufficient to expel General Noriega from power in Panama through a Panamanian insurgency. However, the chosen explanatory theory proved wrong—or inapplicable to the case—and Noriega resisted the pressures. Then, through Operation Just Cause, the United States intervened militarily in Panama in December 1989, arrested him, and brought him before an American court to have him convicted. Of course, there was some political and diplomatic onus on the United States as a consequence of its military action, because instead of having Panama's political forces overthrow General Noriega—a determinant action that Panamanians would perform—the US

military had to do it. Within the framework of sovereign states' international relations, the American pressure was a frustrated action with negative side effects. In the military framework, it was a partly successful action because even though the United States could not achieve its original purpose—overthrowing a foreign ruler without direct military intervention—and a second purpose had to replace the first one, it attained the goal even if by different means.

Both determinant and mediative actions are complex. Complexity means that even if it is true that logic and dynamic connections between an action and its effects are clearly understandable only within each framework, the developments of outcomes in all frameworks are interdependent. Therefore the logic and dynamics that apply in one given framework are disturbed (i.e., affected and even modified) by the logic and dynamics that apply to all other frameworks in which the same original action generates outcomes. In the example above, the logic and dynamics that presided over the international environment in 1989 interfered with the US foreign policy to exclude military action from the list of preferred solutions. That may not have been the case decades before and might not be the case today.

Complexity is also linked to the issue of determining the action's extension. In fact, depending on the scope of the analysis, one can consider the same array of events an action or a chain of connected actions. Even a very simple action like drinking a glass of water is a composite of actions—picking up the glass, picking up the bottle, pouring water into the glass, bringing the glass to the mouth, pouring the water into the mouth, and swallowing the water. One can further analyze these simple actions. To pick up something or to swallow it involves a great deal of muscular effort, which means the working of several muscles, and is extended in time. So one must decide where to draw the line.

Usually one defines actions at the rhetorical level because they are described by natural language. However, pragmatical analysis implies that the action's extension can reach its relevant outcomes. This approach is particularly important when we know that in some cases, an action triggers a process whose outcomes become unavoidable. In fact, sometimes after triggering an action, one can still perform other actions that entail the interruption of the process that would bring about the envisaged outcome. But in many cases this is impossible. After one triggers the action, the outcome becomes unavoidable. Due to space limitations, this important issue will receive no further elaboration even though it can blur the distinction between mediative and determinant actions.

Pragmatical Analysis and Effects-Based Operations

An action's outcomes as a source of meaning lie at the core of both pragmatical analysis and EBO. In fact, all the key ideas contained in the EBO concept—influence or change, desired outcomes, and achievement—relate to outcomes. But they relate also to the ideas of intention or purpose, which makes EBO a special case of acting in sets of connected, purposive actions. Thus, a general theory of purposive acting does apply to EBO.

Perhaps it is useful to EBO studies to emphasize pragmatical analysis in intersubjective communication as a choice means for controlling objectivity. The key role of intersubjectivity in the purposive-acting processes makes clear that EBO—as any set of connected purposive actions—is a collective work that one must consider from multiple standpoints. Such a requirement results not only from the human plurality of views but also from reality's

being a complex construction. For that reason, we need to distinguish between rhetorical definitions and pragmatical definitions, which seldom coincide.

For instance, regarding EBO we must distinguish between the (pragmatical) meaning of a sortie for the squadron commander and for the joint force air component commander. For the former, it is a mission in itself. Mission accomplishment means success. For the latter, the sortie is but part of a bigger puzzle, and its meaning depends on how it fits in a set of orchestrated air operations. If we go on to include the president and secretary of defense, the meaning of that particular sortie is connected not only to its outcomes related to military goals—particularly if it is a determinant action—but also to political developments that could arise from these outcomes. In the case of defective planning or execution, a frustrated sortie within the squadron commander’s framework could become a serendipitous action within the political framework. Let’s remember that the success of a purposive action is a pragmatical issue and that pragmatical definitions depend strongly on frameworks.

In the case of EBO, the explanatory theory that guides power application involves military doctrine in a profound way. Thus, pragmatical analysis can prove useful for calling attention to the difference among human failure, wrong application of a right explanatory theory (or wrong application of sound doctrine), and the case in which theory proves wrong (when evolutions in the environment or technology supersede doctrine). Pragmatical analysis also would call attention to EBO’s complexity in the sense that military actions are extended in time, and their outcomes in all different frameworks are interdependent. This is not a novelty but the very reason why EBO is so critical in warfare. The understanding that military actions bring about political, economic, and sociocultural outcomes (not to mention the military ones) is the true basis for the call for “a fully developed theory grounded in effects-based thinking.” Our hope, however, is that awareness of the different frameworks and their interrelationships can help make ideas clearer when one plans, executes, assesses, and adapts military operations.

Conclusion

EBO and pragmatical analysis share many common features because both refer to sets of connected purposive actions. Even though EBO has a specific military meaning, the greater scope of pragmatical analysis encompasses EBO’s main features. So it is important to consider that pragmatical analysis can show that many EBO features are not a consequence of military aims but are typical of all sets of connected purposive actions. Hopefully, looking at problems from a more general standpoint can prove helpful in shedding light on the diverse aspects of EBO, mainly those not typically military.

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Notes

1. “A review of a number of cases going back as far as World War II indicates that the US military has struggled to apply effects-based principles for over 50 years.” Col Edward Mann, Lt Col Gary Endersby, and Tom Searle, “Dominant Effects: Effects-Based Joint Operations,” *Aerospace Power Journal* 15, no. 3 (Fall 2001): 93. However, they go on to say that “the military has never really institutionalized the thought processes necessary to ensure consistent adherence to EBO principles. Only now is EBO being tentatively and unevenly incorporated into service and joint doctrine.” Ibid.

2. Jürgen Habermas says that “the model of purposive-rational action takes as its point of departure the view that the actor is primarily oriented to attaining an end (which has been rendered sufficiently precise in terms of purposes), that he selects means that seem to him appropriate in the given situation, and that he calculates other foreseeable consequences of action as secondary conditions of success.” *The Theory of Communicative Action*, vol. 1 (Boston: Beacon Press, 1984), 285.
3. Lt Col Antulio J. Echevarria II, “ ‘Reining in’ the Center of Gravity Concept,” *Air & Space Power Journal* 17, no. 2 (Summer 2003): 91.
4. Mann, Endersby, and Searle, “Dominant Effects,” 95.
5. The national forums are annual seminars aimed at offering inputs to a Brazilian national-development project. They gather select people from the academic, political, and social sectors in Brazilian society under the direction of Dr. João Paulo dos Reis Velloso and Dr. Roberto Cavalcanti de Albuquerque. Dr. Velloso was formerly secretary of planning for the Brazilian federal government, and Dr. Albuquerque was his undersecretary at that time. The paper referred to in the text was published as the first chapter in the book *Educação e Modernidade (Education and Modernity)* (São Paulo, Brazil: Nobel, 1993), edited by Velloso and Albuquerque. The paper’s submission followed a special invitation from Dr. Velloso and Dr. Albuquerque, who asked the author to specifically apply pragmatism to the 1992 forum’s key issue.
6. Maj Gen David A. Deptula, “Air Force Transformation: Past, Present, and Future,” *Aerospace Power Journal* 15, no. 3 (Fall 2001): 90.
7. Mann, Endersby, and Searle, “Dominant Effects,” 93.
8. Echevarria, “ ‘Reining,’ ” 96n24.
9. Ibid.
10. Ibid.
11. I am indebted to Mr. Al Lopes, editor of the *ASPJ em Português*, for kindly verifying the currency of the information.
12. Charles Sanders Peirce, who was born in 1839 and died in 1914, is considered the most original thinker and greatest logician of his time. People usually take for granted their perception’s objectivity, unconcerned about the possibility of distortions or other sources of error in perception. Pragmatists refuse any dogmatic foundation of objectivity. Rather, they emphasize the practical means of making sure that one’s perception is objective—the agreement of other people who share the same perceptual experience. So the communication among people—intersubjective communication—is the pragmatic basis of any claim of perception’s objectivity. In other words, the pragmatic criterion of objectivity is an intersubjective agreement that recognizes a claim of objectivity as indisputable.
13. Erving Goffman was born on 11 June 1922 in Canada and died on 19 November 1982 in Philadelphia, PA, while president of the American Sociological Association. He is well known for his contributions to studies in face-to-face interaction and identity building. Erving

Goffman, *Frame Analysis: An Essay on Organization of Experience* (Boston: Northeastern University Press, 1974), 8, 10.

14. These definitions deserve the criticism of logical circularity. However, they reflect the fact that the compound actor-action is a unit, which appears as different analytical elements only in the rhetorical realm. The actor-action unit is an essential concept in pragmatic analysis, but space restrictions do not allow for a full discussion of this issue here.

15. Aristotle stated that any changes in objects are determined by four *aitia* or causes:

Different accounts of a cause correspond to different answers to why-questions about (for example) a statue. (1) “It is made of bronze” states the material cause. (2) “It is a statue representing Pericles” states the formal cause, by stating the definition that says what the thing is. (3) “A sculptor made it” states the “source of change,” by mentioning the source of the process that brought the statue into being; later writers call this the “moving cause” or “*efficient cause*.” (4) “It is made to represent Pericles” states “that for the sake of which,” since it mentions the goal or end for the sake of which the statue was made; this is often called the “final” (Latin *finis*; “end”) cause. (emphasis added)

Routledge Encyclopedia of Philosophy, CD-ROM, version 1.0 (London: Routledge, 1998). Modern science dropped out all Aristotelic *aitia* but the efficient cause, which is called simply “cause.” However, when the study comes to phenomena involving human will and consciousness, some finalistic explanation—the explanation in terms of final cause—is needed. All theory of purposive action is grounded on final causes. So it seems convenient here to stress the agent as an action’s efficient cause, distinct from the final cause, which defines the action’s purpose and triggers the agent’s motivation.

16. Because the social order is guaranteed by its juridical structure, any actor’s admissible rhetoric must comply with what is going on within the juridical framework. In some cases, an intention to produce calculated diplomatic effects might lead to the breaking of this rule. When that is not the case, breaking this rule can be a disastrous diplomatic and/or political mistake.

Being prepared to deliver precise effects anywhere at anytime as part of a joint and/or coalition force is a top priority.

—Gen T. Michael Moseley, USAF

Contributor



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