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BEHAVIORAL MOMENTUM THEORY AS A GUIDELINE FOR HISTORICAL RESEARCH

LA TEORÍA DEL MOMENTUM CONDUCTUAL COMO UNA GUÍA PARA LA INVESTIGACIÓN HISTÓRICA

MARCO A. PULIDO AND BRISA D. LÓPEZ
Laboratorio de Condicionamiento Operante
Universidad Intercontinental

Abstract

The purpose of the present paper was to present a behavior analytic model that may be used as a guideline to orient historic research. The behavioral momentum model suggests that reinforcement of a particular behavior makes it more persistent in the subject's repertoire. The model is used in this paper to analyze the Battle of Leyte Gulf and the Battle of France. Specifically the reinforcement histories of Admiral Bill Halsey and General Maurice Gamelin are analyzed, and their putative effects on the eventual outcomes of the aforementioned battles discussed. In general, the analysis suggests that the model adequately explains the relationships between reinforcement histories and military outcomes.
Key words: Behavioral momentum, research guidelines, battle of Leyte Gulf, battle of France, interdisciplinary cooperation

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Resumen

El propósito de este trabajo fue presentar un modelo basado en el análisis experimental de la conducta, que puede ser utilizado como guía para orientar la investigación histórica. El modelo de momentum conductual sugiere que el reforzamiento de una conducta determinada, la hace más persistente en el repertorio del sujeto. El modelo es utilizado en este trabajo para analizar la Batalla del Golfo de Leyte, así como la Batalla de Francia. Específicamente, se estudian las historias de reforzamiento del Admiral Bill Halsey y del general Maurice Gamelin, y los efectos de estas sobre los resultados de las batallas en cuestión. En general el análisis sugiere que el modelo explica adecuadamente la relación entre las historias de reforzamiento, y los resultados militares.
Palabras clave: Momentum conductual, guía de investigación, batalla del Golfo de Leyte, batalla de Francia, cooperación interdisciplinaria.

Skinner (1981) suggested that both biological characteristics of species and individual behavior are selected by consequences. That is, organisms vary amongst themselves in numerous ways, when one of these variations represents a reproductive advantage for a certain individual, then this variation is likely to be transmitted to its offspring and thus increase its frequency within the species, in a specific ecological niche. The behavior of individual organisms also varies, some of these variations are conducive to the production of "favorable" consequences and thus their frequency increases. In this same tenure, Skinner (1981, p. 502) suggested that cultural practices may also be selected by consequences. Consider for instance, that a member of a determined social group, designs a tool that is useful for the survival of this community, it is probable that the use of this tool will become widespread amongst its members. Thus Skinner conceives selection by consequences as a process that operates at three different levels: 1) species biological traits, 2) individual behavior and 3) cultural practices.

The evolution of species has been studied extensively by biologists since the XIX century (Larson, 2004); in a similar vein, selection of individual behavior by consequences has also been extensively explored (Honig & Staddon, 1977; Iversen & Lattal, 1991). To the knowledge of this author, selection by consequences, at a cultural level, has been studied in the framework of the tendency of nations to initiate war. War initiation con be considered a cultural practice with particularly relevant reinforcing or punishing consequences (depending primarily on the final outcome of the engagement); it is also a frequent cultural practice, as the average worldwide rate has remained fairly stable at about 6 wars every ten years (Singer, 1991).

Most studies regarding the effects of consequences on war initiation have assessed the hypothesis that a previous history of winning a war should increase the probability of beginning a new engagement in the near future. The same studies have also assessed the possibility that a war winning history should create an "ad-

diction" to war (translated by Nevin, 1996, as a greater persistence to engage in this action, in the face of punishment or other adversities; Nevin suggested this cultural practice could be conceptualized as an instance of behavioral momentum).

The momentum hypothesis of war initiation has been assessed in several studies, for instance, Singer & Small (1974) assessed the possibility that nations that have previously won a war would be more likely, than nations that had previously lost a war, to initiate a new engagement within the next ten years. The results of these scientists showed that, during the particular period of time scrutinized by the authors, 22 "winning" nations, initiated a war within the next ten years (only 2 "losing" nations initiated a new engagement during the same period of time). Singer & Small concluded that… "it is not so much that war begets war…, but that victorious war begets war…(p.284).

In a more recent study, Nevin (1996) assessed momentum hypothesis in war initiation, analyzing data for interstate wars from two historical periods (between 1495 and 1815 and between 1816 and 1990). Nevins's results showed that the proportion of wars initiated by a nation, increased with successive wins and decreased with successive losses. Additionally, the time to initiate war after a previous win was shorter than after a previous loss. Nevin concluded that war making may be interpreted as a cultural practice that is selected by victory or defeat.

In a parallel, but more molecular development, Pulido & Pulido, 2006 and Pulido 2007 have suggested that strategic war decisions may also be selected by consequences, and that the positive reinforcement of these decisions may generate behavioral momentum. Specifically these studies have analyzed the strategic decisions of the German high command during World War II, leading to the so called "Battle of Stalingrad." Both Pulido & Pulido 2006 and Pulido 2007 presented evidence that suggests that "stand fast" orders, during the French and Norwegian campaigns, selectively reinforced this particular strategy. Pulido's basic argument was that, whenever German armies where surrounded or breached they were ordered to remain in their positions and form a "hedgehog" (a defensive circle). This strategy was also selectively reinforced during the first year of the Russian campaign where hedgehog deployment saved the German army before the gates of Moscow, and once again during the Battle of Demyansk (Carell, 1966). During the winter of 1942 the German sixth army front was breached by strong armored forces in the vicinity of the city of Stalingrad. In agreement with a behavioral momentum hypothesis the hedgehog order was immediately issued; the order doomed sixth army to gradual and complete annihilation by Russian forces. In further agreement with a behavioral momentum hypothesis, the German high command continued issuing hedgehog orders until its complete defeat in the month o may of 1945.

The purpose of the present paper is to present further historical evidence for the hypothesis that military strategy may be governed by behavioral momentum theory. Specifically, a brief outline of the battle of Leyte Gulf, and the Battle of France are presented. Following the depiction of the battles, the strategic decisions are analyzed in terms of the previously mentioned theory.

On the Battle of Leyte Gulf

The Battle of Leyte Gulf was the last and biggest naval engagement of World War II. The American "island hopping" strategy within the pacific war theater had gradually brought the war to Japan's "door," by the summer of 1944 (Humble, 1974). This scenario was highly feared by the Japanese because it would allow the unrestricted bombing of their cities, as well as an eventual invasion of their soil. The Japanese Naval High Command correctly anticipated that the invasion of the Philippine Islands would occur at some point during the autumn of 1944 (Ugaki, 1991). The "Sho" (victory) plan was designed to use Japan's remaining naval strength in a decisive battle. The plan was based on the idea that the remaining Japanese aircraft carriers would approach the landing zones in the Philippine Islands from the north (in an attempt to draw air and naval cover away from the main attacking force). This would in turn give the giant Japanese dreadnoughts and opportunity to irrupt in the landing zones and cripple the invasion.

On October the seventeenth the invasion of Leyte Island began, and the order to commence Sho plan was issued to its commanders. Ozawa would direct the decoy carrier force through the proximities of Cape Engano; Kurita would attempt to reach the Leyte Gulf through the San Bernardino Strait (on the northern part of Leyte Island); Nishimura would attempt to reach the same spot through the Surigao Strait (on the southern part of Leyte Island).

The initial developments of the battle were clearly detrimental for the Japanese. Both Kurita's and Nishimura's forces were detected early in the battle (well before the decoy force was found) and heavily attacked by carrier planes. When losses were considered intolerable, Kurita decided to withdraw temporally, (in order to give Ozawa time to be "discovered," and draw away the carrier planes). This temporal change of course "did the trick," in the afternoon of October twenty-fourth Ozawa's empty carriers were discovered and Admiral Bill Halsey decided to take the third fleet (assigned to guard the Leyte landings) north towards Ozawa's ships. Halsey received information regarding a new change of course from the Kurita fleet; the dreadnoughts were once again heading for the San Bernardino Strait. Halsey decided to proceed north anyway (MacIntyre, 1970).

In the early hours of the twenty fifth, Kurita's ships irrupted into the Gulf of Leyte. Immediately the Japanese's big naval guns commenced firing against the slow and poorly armed carriers of Admiral Kinkaid's Seventh fleet. A carrier and several American destroyers were sunk before Kurita "decided he had had enough" and withdraw towards the San Bernardino Strait. As it turns out, Kinkaid's seventh fleet got away "lightly" because Nishimura was incapable of breaching the American defense in the Surigao Strait, and because the terrible losses suffered by Kurita in the Sibuyan Sea did not permit him to fully exploit Halsey's error.

On the Battle of France

During the summer of 1914 the allegiance between Germany and the Austro-Hungarian Empire forced the former to design a war strategy that would defeat the latter's enemies (specifically the nations that parted with Serbia: Russia, France and Britain). The result of this endeavor was the design of the Schlieffen plan. Basically the plan attempted to bypass French fortifications near the border between France and Germany and invade France from the north, by means of the Belgian border (Von Manstein, 1958). The French armies initially reeled under the pressure of the German onslaught; however, by means of enormous sacrifices they were gradually capable of stabilizing the front line and avoid further losses of their territory. What initially appeared as a fluid German offensive stagnated into a trench war (Tuchman, 1962). The German army tried many times to rupture the French front and turn de war "mobile" again. These attempts developed into costly bloodbaths at Ipres (1915), Verdun (1916) and Somme, Lys, Aisne, Noyon-Montdidier, Champagne-Marne in 1918. The French response to these attacks was always the same, fortify entrenchments and mobilize all available resources to the attacked areas. The results of these battles were invariable favorable to the French army as no rupture was accomplished and the front rapidly stabilized again (Gerhard, 1958).

Maurice Gamelin was a direct witness of the failure of the Schlieffen plan during the First World War. In fact he developed the counter-offensive that stopped the German army in 1914 during the first battle of the Marne. He then consistently grew through the French army ranks by brilliantly collaborating during the "trench war." At the outbreak of World War two there were small doubts that Gamelin would command the French armies during this new conflict. After the Polish defeat in 1939 both France and Britain declared war on Germany, however this time the traditional Schlieffen plan was subtly changed by Field-Marshal Erick von Manstein. In Manstein's new plan, infantry forces would once again invade Belgium and attack the north of France; however this time the attack across the Belgian border would only be a decoy, (developed to attract French and British troops away from the French-German border).

As soon as Gamelin had news of German troops crossing into Belgium he deployed the bulk of his infantry and armored divisions to the north of France. Almost immediately XIX army corps moved the greater part of German armored forces through the intricate roads of the Ardennes and swiftly crossed into France, through the Bastogne-Arlon gap. The German armored divisions quickly reached the English Channel, trapping the greater part Gamelin's armies in a pocket between the Belgian Border and a line roughly covering from the port of Dunkirk to Luxemburg. The Battle of France initiated on the 10 of May, Petain asked for an armistice the 22 of June (Guderian, 1952).

Bill Halsey and Maurice Gamelin: "Victims" of Behavioral Momentum?

This question may never be fully answered, as the events occurred more than sixty years ago, (and all historians have to work with are the testimonials of the soldiers and officers that fought with them). However historic research needs not only reliable information, sound research guidelines are also fundamental in this endeavor. To date, both Halsey's and Gamelin's behavior have been approached by historians in terms of personality theory. In Halsey's case, his decisions during the Battle of Leyte Gulf have been attributed to a "rash" and "impulsive" personality (Potter, 2003). In a similar way, Gamelin's blunder during the Battle of France has been attributed to a "stiff," "rigid" and "predictable" personality (Martin, 1992). These research guidelines appear problematic for at least three reasons. In the first place, personality traits are metaphysical in nature and thus their direct observation is impossible by those surrounding both historical figures (and thus can neither be confirmed nor disconfirmed). In second place the personality trait guideline is impossibly circular; that is actions and decisions are said to be explained by personality characteristics, but those same characteristics are inferred from the subject's behavior. In third place, the personality trait guideline has provided small or nil evidence regarding the life events, of the aforementioned historical figures, that may help explain why they were rash or rigid in the first place.

A behavioral momentum guideline may offer historic research new hypotheses regarding the events presented in this paper (and other atypical decision processes as well). These new hypotheses would focus on the physical events (outcomes) immediately occurring after the subject's behavior. Explaining behavior in terms of its consequences would avoid the presentation of circular arguments as explanatory principles. Furthermore, focusing on the subject's recent reinforcement history (instead of remote life events occurring during the subject's early childhood) is not only congruent with contemporary learning theory, it will also probably coincide with a period of time when the subject's actions were being routinely registered and scrutinized by newspapers, magazines, books, etc... More importantly, countless research has shown that the immediate determinants of behavior are fundamental for the understanding of both animal and human behavior (see O'Donohue et al. 2001 for a review)

In order to further develop the aforementioned arguments let us analyze Halsey's decisions at Leyte Gulf. Halsey was a direct witness of the war in the Pacific from its beginning in Pearl Harbor to its conclusion in 1945. At the outbreak of the war he had already been an aircraft carrier commander (he was commander of the USS Saratoga) and of the pilot training facilities at Pensacola. At the moment of the Pearl Harbor disaster, Halsey was the commander of the aircraft carrier Enterprise, his planes appeared above the harbor at the moment of the attack, only to witness how the biggest Battleships of the US Navy where sunk by carrier borne Japanese aviation. Halsey and the Enterprise entered the harbor the following day to witness the devastating results of the attack (Prange, 1982). Halsey had another opportunity to personally witness the overwhelming power of carrier borne aviation in the month of May 1942. At the Battle of the Coral Sea, all Japanese and US ships were sunk by

aircraft carrier planes; no ships on either side were sunk by battleship artillery. Finally, although not physically present at the Midway Battle (Halsey was ill during the battle) the Enterprise was present at Midway; in combination with the Yorktown and the Hornet, the carriers sent torpedo and dive bombers that sunk all four Japanese carriers (Kaga, Akagi, Soryu and Hiryu). Once the carriers had been sunk, the entire Japanese armada abandoned the Midway area and the battle was over (Fuchida & Okumiya, 1958) . In short, by June of 1942 both Halsey and the US Navy had been severely punished by Japanese aircraft carriers; additionally their own aircraft carriers had severely punished the Japanese Navy. The Japanese conventional battle ships had inflicted no damage to the US Navy; nor had the US Navy's juggernauts inflicted any damage on their adversary (quite the contrary they had proven their relative futility and helplessness at Pearl Harbor). With this kind of experience, Halsey's decisions at Leyte Gulf are relatively easy to predict.

Regarding Gamelin's decisions at the Battle of France numerous "shaping" events may be found in his documented actions during World War I. Perhaps the most notorious of these events was his participation in the first battle of the Marne. Two German armies under the direction of Helmuth von Moltke attacked France after invading Belgium, for approximately one month they pushed the French and the British Expeditionary Force until they reached the river Marne. By then, the German Army had overextended its right flank, and the French Sixth Army (including Gamelin) attacked in the general direction of the Ourq river. The attack put the German Army in serious danger of being encircled; they immediately suspended their attack on Paris and pulled back. The battle was considered a major French success (it was subsequently known as the "miracle" on the Marne), and Gamelin was directly involved, he was also promoted after the event.

After describing Gamelin's decisions at the first Battle of the Marne, his actions during the Battle of France are easy to understand using behavior momentum theory. Gamelin learned that a great German offensive would come from the Belgian, rather than the German frontier; he also learned how such a threat could be thwarted. All available forces should be quickly summoned to Belgium and an attrition contest should be waged until the German forces overextended themselves; once this objective had been accomplished, a quick counter attack should break the German communication lines forcing the enemy to stall the offensive or to withdraw. This is precisely was Gamelin did, as a matter of fact the plan was outlaid well before the German attack began in the shape of the Dyle Plan. In further support for a behavior momentum theory of Gamelin's actions, the "Generalissimo" received a complete outline of Manstein's plan well before the opening movements of the Battle of France (much to the German High commands chagrin, a German plane, carrying the plans, crashed within French borders). Gamelin dismissed the plans as part of a decoy strategy. Not until German tanks were positioned well behind Gamelin's rear did a French counterattack materialized against the German armored thrusts; by then the bulk of the French army was completely surrounded, invaluable time and effort had been wasted fighting a decoy army on the Belgian border.

Argumentative Synthesis

To date, the greater part of the collaboration between historians and psychologists has been based on behavior theories that lack empirical support and that have not been validated by modern scientific research (see Binion, 1982 for a review). However efforts designed by behavior analysts have demonstrated that theories, developed using animal research, may help develop models that give accurate accounts of relevant historic events . The ideas developed by Nevin (1996), have been used at a more molecular level by Pulido & Pulido 2006 and Pulido 2007 to develop new research guidelines designed to understand the German's Army defeat at the Battle of Stalingrad. The present paper represents an attempt to further extend the thematic reach of the behavioral momentum model to the Battle of Leyte Gulf, specifically Bill Halsey's "decisions" during the Battle. The Battle of France is analyzed in similar terms, specifically the participation of Maurice Gamelin during World War I and its putative effects on his decisions during the Battle of France.

Why bother to extend the issue to different events and characters? To begin with, because its extension demonstrates that the model has a general applicability, (and is, by no means, circumscribed to particular historical contexts). In second place, we attempted to extend the model, because it may only be adequately validated by the endeavors of professional historians. Extending the model increases its range of thematic interests, this in turns increases our chances of "catching the eye" of professionals that may help validate (or discard) this approach.

The reader may also have questions regarding the selection of behavioral momentum theory in our interdisciplinary approach to historic research. After all, behavior analysis is a complex discipline, composed of numerous theories, models and findings that have shown to be very powerful tools for the control and prediction of human behavior. Behavioral momentum theory was a more or less attractive selection to begin with, because historians are usually intrigued by persistent behavior (in particular when this behavior occurs in the absence of explicit reinforcement or in spite of persistent punishment); historians have also typically approached this type of behavior in psychodynamic terms (see for instance De Mause, 2002). Thus our selection of behavioral momentum theory, allowed us to address issues that are relevant for historians; additionally, it allowed us to address issues that have been extensively approached by psychodynamic perspective. Succinctly our selection, may allow us to enter into the mainstream of this interdisciplinary discussion, where scientifically based approaches to human behavior, may have much to contribute.

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