Gaining the Advantage

How Patton's Unique Information Forces and Competitive Approach to Information Enabled Operational-Level Success in August 1944

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In late July 1944, with Allied forces bogged down in the Norman hedgerows, Berlin and victory seemed nowhere in sight. Lt. Gen. George S. Patton Jr.'s Third Army was earmarked as an exploitation force tasked with the seizure of the port of Brest. Allied planners intended the supplies flowing through Brest to fuel a long, systematic campaign across France, which, even if all went well, was forecasted to take at least another year to reach the German border.[1] Yet less than a month later, Third Army was on Germany's doorstep, over five hundred thousand German troops were killed, wounded, missing, or captured, and the vast majority of German war materiel in France was in Allied hands.[2] From the moment it became operational on 1 August until it reached the Moselle River in September, Third Army was always one step ahead of the Germans. Throughout August, Third Army overran unprepared German defenses and outmaneuvered German attempts to counterattack. Despite the challenges posed by immature technology, logistical constraints, a new and difficult

operational environment, and a peer enemy, Patton found a way to generate advantage.

Patton derived his success in large-scale combat operations on the continent from his dynamic approach to warfare and his special units, purpose-built to aid Third Army in managing information. Specifically, Patton strove to generate what twenty-first-century U.S. concepts define as information advantage, "a condition when a force holds the initiative in terms of relevant actor behavior, situational understanding, and decision making."[3] Patton sought to seize the initiative and continually take his following action before the enemy could react to his previous one. The effect became cumulative as Patton gained a further advantage in each successive decision cycle. Rapid exploitation disintegrated the enemy in depth, while speed compensated for security, allowing Patton to economize his force and concentrate combat power. Generating this information advantage over the German forces allowed Third Army to gain and maintain the initiative, manage prudent risk,

Lt. Gen. George S. Patton (*standing*) and Maj. Gen. Walter Robertson pass in review of Third Army soldiers, circa April 1944. The Third Army did not participate in D-Day but was unleashed on the Germans just after the breakout from Normandy. (Photo courtesy of the U.S. Army)

anticipate decisions, and extend its operational reach throughout the pursuit across France.

Patton's Information Methodology

Patton's approach to information and decision-making set him apart from his peers and contemporary U.S. Army doctrine. Throughout the conflict, U.S. doctrine placed most of its emphasis on the massing of firepower, and exploration of how to enhance friendly decision-making and disrupt enemy decision-making was somewhat limited.[4]

As early as 1943, Patton developed a concept for leveraging information to first gain and then maintain the initiative:

First–surprise; find out what the enemy intends to do and do it first.
Second–rock the enemy back on his heels— Keep him rocking—never give him a chance to get his balance or build up.
Third—relentless pursuit—a l'outrance as the French say–beyond the limit.
Fourth—mop him up.[5]

Patton viewed intelligence as providing an initial advantage to "do it first," gain the initiative, and pursue operational-level maneuver. Similarly, he saw that he could "rock the enemy back on his heels" by attacking enemy cognitive processes. By denying the enemy information, providing false information, or reducing the

U.S. Army Signals Intelligence Service cryptologists at work at Arlington Hall, Virginia, circa 1943. (Photo by the U.S. Army, courtesy of Wikimedia Commons)

enemy's time to make decisions, he could get "inside the enemy's decision-making cycle."[6]

Patton's G-2, Col. Oscar Koch, described Patton's formula as "following up his first action by a second in less than that minimum [time necessary for the enemy to react]."[7] Patton recognized that if he could maintain the speed and accuracy of his decision-making while injecting friction, delays, or indecision into enemy decision-making, he could maintain the initiative indefinitely.

To prevent the enemy from "getting his balance," Patton sought to protect his information and advantage in situational awareness. Patton viewed communications security as critical to protecting information and rapid transmission of friendly information as the key to maintaining common situational understanding. Yet, information was only valuable if one possessed time to orient oneself, decide, and act on the information gained. Consequently, Patton conceptualized his approach to information in terms of a time-based competition for a decision-making advantage in which the winner gained or maintained the initiative.[8]

Patton's emphasis on "pursuit" reflects his understanding of how information could be employed to disintegrate enemy formations, allowing his forces to

"mop them up." Patton sought to present the enemy with multiple dilemmas and confound enemy expectations while attacking the enemy cognitively, producing a "shock" effect and enabling his forces to "mop them up."

Thus, Patton possessed a clear, cohesive, and comprehensive vision of achieving specific friendly and enemy decision-making effects. Patton's approach reflected a more intent-based framework for managing the employment of the capabilities at his disposal. He also approached information competitively to open windows of opportunity against the enemy. Patton viewed intelligence, particularly strategic intelligence, as a tool that could provide an initial position of advantage if operationalized aggressively. Combined with superior situational understanding and assured decision-making processes, this intelligence would allow him to move first and dictate the campaign's tempo to the enemy. He saw value in attacking enemy sources of information and decision-making processes to disrupt and delay enemy decision-making. He also saw how protecting friendly information would allow him to keep control, even as the enemy attempted to "catch up" by fighting for information. Patton went beyond his peers in how he managed these various activities cohesively to produce a combined effect, translating cognitive advantages into operational results.

Patton's Information Forces

To operationalize his information advantage approach, Patton and the Third Army staff built dedicated information forces during the spring and summer of 1944: the Army Information Service (AIS) and the Signal Intelligence Service (SIS). The SIS was led by Maj. Charles Flint and organized under the Signal Section in close coordination with the G-2. Doctrinally, the SIS was responsible for signals intelligence activities, signal security, and the preparation of cryptographic equipment

for the Army.[9] The SIS exercised technical control over the Army-level 118th Radio Intelligence (RI) Company and the four corps-level signal service companies.[10] These companies conducted signals intelligence collection and production, friendly signal security monitoring, and direction-finding.[11] Together, the SIS enterprise protected friendly information through security monitoring and distribution of cryptographic materials. It also enabled decision-making through the provision of combat information and intelligence. Yet, in the run-up to the invasion of fortress Europe, Patton integrated additional functions under the SIS to support his information advantage approach. Patton charged the SIS with managing all radio countermeasures for Third Army.[12] This included disrupting enemy decision-making processes by integrating radio deception into Army operations, such as opening and closing networks to confuse German traffic analysis or providing false information via radio.[13] It also included responsibility for denying the enemy the use of information through electronic attack.[14] Integrating these activities under a single executive agent created efficiency, synchronized effects, and supported Patton's information advantage vision of protecting friendly information to prevent the enemy from acting first or regaining their balance.

Patton believed that both time and detail were lost in transmitting messages back to Army Headquarters through normal command channels. So in the summer of 1944, he converted the 6th Cavalry Group (Mechanized) into an "Army Information Service."[15] The AIS was tasked with enhancing operational-level situational understanding by operating a "rapid communications channel, bypassing normal command channels, under Army control, direct from front line units to the Army Command post"; monitoring "friendly battalion, regiment, division, and reconnaissance unit radio nets"; and running a "system of patrols of combat posts and observation pots [sic] of battalions and regiments," while maintaining "periodic contact with division G-2 and G-3 to exchange information."[16] The AIS directly reported reconnaissance and intelligence information to the G-2 and friendly force information to the G-3.[17] To accomplish this mission, the 6th Cavalry commander, Col. Edward "Joe" Fickett, created and retrained nine platoon-sized "information detachments" for assignment at the division level and four supplementary detachments consisting of troop headquarters for assignment at the corps level.[18] The divisional detachments consisted of two officers and forty enlisted men. They were subdivided into a "command and monitoring" section and a "patrol and liaison" section, each led by a lieutenant.[19]

At the Army level, Fickett established an AIS information center collocated with Flint's SIS Headquarters in a specially built communications van.[20] This information hub would process and route signal intercepts and communications security violations to the G-2 and signal officer from the 118th RI Company and the signal service companies. It would also process and route combat information and intelligence from the AIS patrols to the G-2 and G-3.[21]

Exploiting Cobra: Gaining an Initial Information Advantage

Third Army activated in France at 1200 hrs. on 1 August 1944, and the days and weeks that followed would demonstrate the effectiveness of Patton's information advantage approach and information forces. Operation Cobra began on 25 July with the limited objective of breaking through German lines and seizing Coutances. While Maj. Gen. J. Lawton Collins's VII Corps fixed elements of the German 7th Army, Maj. Gen. Troy H. Middleton's VIII Corps punched through the German left flank past the initial Cobra limit of advance, Coutances, and toward Avranches, a key node on the routes running south out of the peninsula.[22] By 1 August, VIII Corps had seized Avranches and was moving south.

Sensing the opportunity to exploit the breakthrough on the Cotentin peninsula, Patton decided to push Maj. Gen. Wade H. Haislip's XV Corps and Maj. Gen. Walton Walker's XX Corps, two hundred thousand men, and forty thousand vehicles, in column through the narrow corridor at Avranches. This decision risked both corps being destroyed in detail if the German 7th Army recognized what was occurring and rapidly oriented on Third Army's exposed flank. Upon arriving in France in July, at Patton's direction, Third Army placed a significant premium on security to conceal its presence. Telephone security was a high priority, and total radio silence was enforced.[23] When Third Army went operational on 1 August, it lifted the radio silence restrictions, but the emphasis on denying the enemy insight into Third Army operations
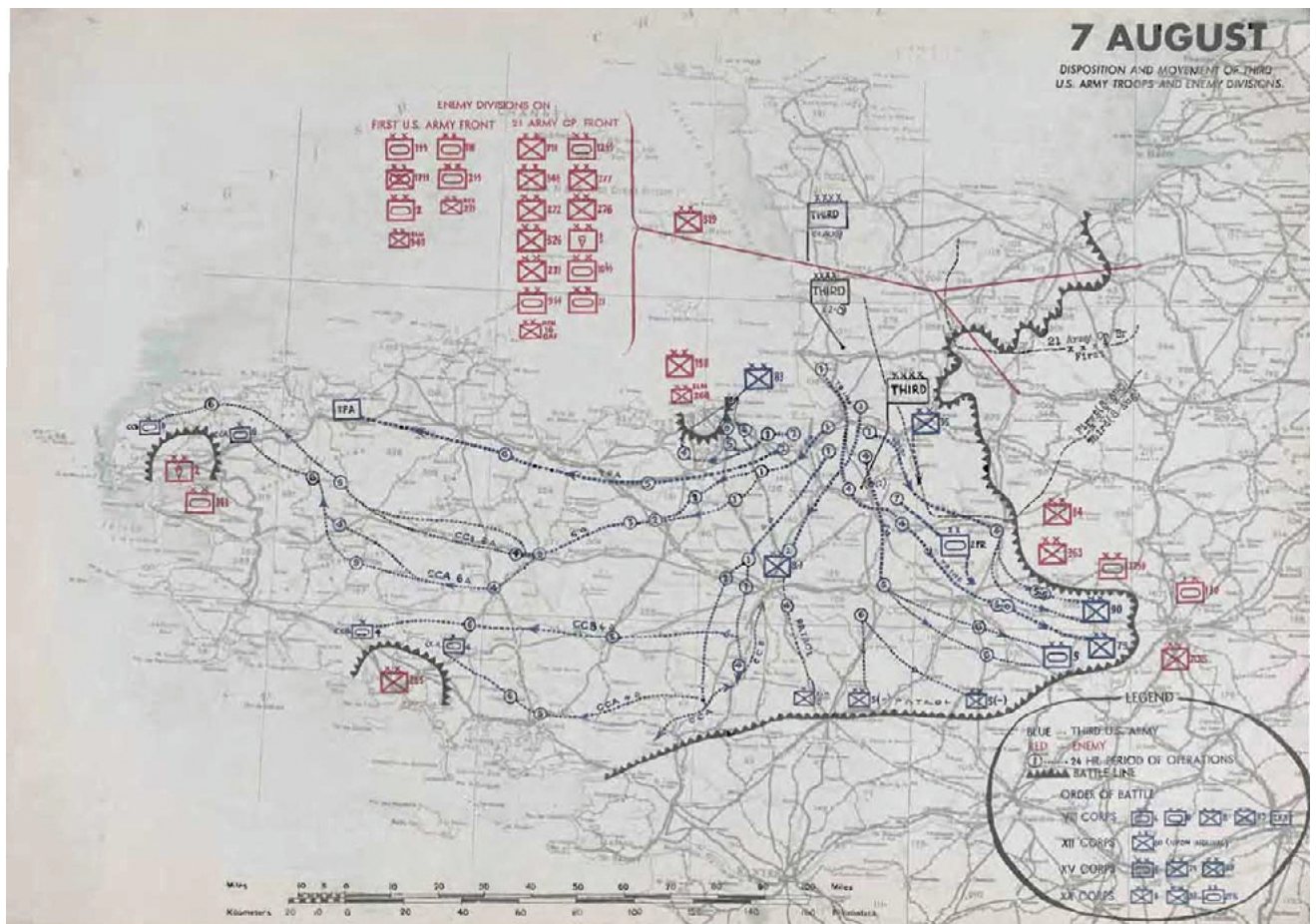
(Image from Third United States Army, *After Action Report Third US Army 1 August 1944–9 May 1945: Volume I, The Operations* [Regenburg, Germany: Third U.S. Army, May 1945], 23)

Figure 1. 7 August 1944: Disposition of Third Army and German Forces

remained. Thus, while the operation entailed risk, Third Army possessed an initial advantage.

Even unopposed and undetected, pushing so many elements through such a small "straw" risked delays, and each delay provided the Germans' decision-making cycle an opportunity to catch up. Furthermore, elements passing through the corridor needed to emerge as combined arms formations ready to continue the exploitation. Gen. Omar Bradley noted that this movement was "flat impossible … but out the other end of the straw came divisions, intact and ready to fight."[24] It is highly likely that the AIS provided Patton with the superior situational awareness and assured communications he needed to manage this "impossible" movement. Even before Third Army and the AIS went operational on 1 August, AIS detachments were operating with their assigned divisions, and AIS officers had visited First Army units to orient themselves with

operations in France.[25] Thus, in part due to the work of AIS, Patton had a significantly better understanding of his environment than the German 7th Army. This understanding, in turn, allowed him to take prudent risks. He also possessed uninterrupted decision-making processes and a secure way to communicate his decisions to his subordinates. This capability enabled him to make rapid decisions, move two corps through the narrow corridor and maintain the initiative.[26]

By 5 August, Third Army's aggressive maneuver had disorganized German forces across Third Army's area of operations, and the only organized German defense existed near Saint Malo.[27] VIII Corps's 4th Armored Division proceeded toward Vannes, threatening to isolate Brittany while 6th Armored Division advanced toward Brest. XV Corps's 90th Infantry Division secured Mayenne, and 5th Armored Division prepared to cross the Mayenne River near Chateau Gontier.[28] Finally, XX

Corps's 5th and 35th Infantry Divisions and 2nd French Armored Division positioned themselves to cross the Selune River near Vitre, securing crossings over the Mayenne and Loire Rivers. From there, XX Corps was poised to sweep east, protecting the southern flank of the

Chief West, Field Marshal Gerd von Rundstedt) was almost entirely unaware of Third Army's activities and how large a force Patton had moved through the Avranches corridor. The German 7th Army only gained its first real insight into Third Army's opera-

> Patton's continued involvement in military deception operations throughout 1944 is noteworthy and demonstrates that Patton saw the utility of deception as a way to achieve economy of force.

Allied advance (see figure 1, page 58).[29] By itself, Third Army presented the Germans with multiple dilemmas, threatening Brittany with isolation, the envelopment of forces in Normandy, the seizure of Paris, and a drive to the unprotected German border.[30]

Particularly characteristic of Patton's operations during August was his continued involvement in military deception to achieve economy of force. In the first days of August, Third Army took part in Tactical Operation B, a military deception operation to convince the Germans that the main allied axis of advance was toward Brittany. German double agents provided false reports to the Abwehr, and elements of the 23rd Special Troops presented the signature of additional Third Army units moving into Brittany.[31] While Tactical Operation B was a SHAEF (Supreme Headquarters Allied Expeditionary Force) plan rather than a Third Army plan, Patton's continued involvement in military deception operations throughout 1944 is noteworthy and demonstrates that Patton saw the utility of deception as a way to achieve economy of force.

Ultra: Gaining the Initiative, Anticipating Decisions, and Managing Risk

Patton's information advantage approach was remarkably effective in the first days of August. Communications security, the continued deception regarding Patton's fictional First U.S. Army Group, Third Army's superior situational awareness, and adequate intelligence combined with the speed of its advance through the Avranches corridor left the Germans at a substantial information disadvantage. Oberbefehlshaber West (Commander in

tions and its efforts to exploit the breakthrough on 5 August when it began receiving reports of 90th Division at Mayenne, 70th Division at Laval, and mechanized cavalry near the Loire. The shock of Third Army's rapid advance and uncertainty regarding its reach further impacted German morale.[32] Yet, to this point, Third Army still was not well and truly inside the German decision-making cycle. Ultra promised to make the difference.

On the night of 6 August, Maj. Melvin Helfers, the Third Army special intelligence officer, provided Patton with Ultra intercepts from the first week of August indicating that Adolf Hitler had ordered all armored units withdrawn from around Caen in preparation for a counterattack.[33] Hitler's plan called for German forces in Normandy to seize Mortain, cut the one American supply route from Normandy to northern France at Avranches, and destroy all allied forces, including Third Army, south of the Mortain-Avranches area.[34] Patton initially believed the veracity of Helfer's Ultra information but assessed that it described a bluff to cover a more significant withdrawal.[35] Nevertheless, in response to the warning, Patton halted the 80th Infantry Division, French 2nd Armored Division, and the 35th Infantry Division near Saint Hilaire, where they could contain a German breakout toward Avranches if the attack materialized.[36] Patton's information advantage, in this case, enabled him to assess German intent, anticipate subsequent decisions, and place forces where they would be in a position to act on the enemy.

On 7 August, Field Marshal Günther von Kluge launched a counterattack toward Avranches, spearheaded by Gen. Hans von Funck's XLVII Panzer Corps. As

(Image from Third United States Army, *After Action Report Third US Army 1 August 1944–9 May 1945: Volume I, The Operations* [Regenburg, Germany: Third U.S. Army, May 1945], 31)

Figure 2. 14 August 1944: Disposition of Third Army and German Forces

the Ultra intercepts indicated, this counterattack was to cut the lines of communication between the Cotentin peninsula and Brittany, splitting Third Army from First Army.[37] Three Panzer divisions formed the initial echelon of the counterattack force, pushing westward from the Mortain area toward an initial objective along the Brecey-Saint Hilaire road. A second echelon consisting of the 1st SS Panzer Division would exploit the anticipated breakthrough and capture Avranches.[38] First Army's VII Corps bore the brunt of this attack, blunting the German drive toward Mortain.[39]

Armed with the understanding of where von Kluge had massed German armor, Patton directed XV Corps to proceed southeast along the German flank toward Le Mans. Then, on 9 August, he ordered XV Corps to change its axis of advance from west-east to attack south-north to capture Alencon.[40] With the attack toward Avranches defeated by First Army, XV Corps's hook to the north imperiled the German salient near Mortain. Threatened with encirclement, on 13 to 14 August, XLVII Panzer Corps began extricating itself from the closing Falaise pocket (see figure 2).

Unfortunately, Bradley denied Third Army permission to extend XV Corps to Falaise and complete the encirclement of the German 7th Army. One of Bradley's reasons for this decision was his fear that XV Corps would be unable to contain "19 stampeding German Divisions."[41] Yet, the withdrawal forced the German elements to abandon their wire and telephone communications and rely primarily on radio communications, providing the SIS and the 118th RI Company numerous opportunities to generate tactical signal intelligence,

exploit the initial success, and "keep the Germans rocking." For example, on 14 August, the 118th, near Le Mans, began intercepting and decrypting numerous field code transmissions associated with armored formations. These intercepts indicated that an armored unit was attempting to penetrate Third Army's enveloping lines and the company's direction finders provided the location of the formation.[42] In response, XV Corps blocked approximately fifty armored vehicles moving southeast from the Forêt d'Écouves, and over the next day, the 79th Infantry Division destroyed the remaining isolated German armor elements.[43] Thus, strategic intelligence set the conditions for tactical success on the ground, subsequently creating conditions to exploit enemy information systems, resulting in further success.

Over Patton's continued objections, XV Corps never was permitted to close the Argentan-Falaise gap. Similarly, when on 17 August, Patton recommended Third Army turn northeast and trap the German 7th Army west of the Seine, Bradley refused. Bradley remained focused more on gaining territory than staying inside the enemy decision-making cycle, keeping him off balance and unable to regain the initiative.[44] Patton recognized how information advantage is situationally dependent, often fleeting, and must be operationalized to gain and maintain the initiative and achieve operational outcomes. Despite the failure to close the pocket, Third Army killed or captured over 135,000 German troops.[45] Col. Robert S. Allen, Third Army deputy G-2, attributed Third Army's success in the first weeks of August to the "effective functioning of command. Intelligence warned the commanders about the impending attack, and commanders acted promptly and aggressively to meet it."[46]

Third Army's successes in reversing and exploiting the German Mortain counterattack demonstrated to the staff the utility of integrating strategic and tactical capabilities to generate operational advantage. Soon Third Army was looking for ways to utilize Ultra intelligence even more aggressively than it had been intended. While remaining security conscious, starting in August and lasting for the remainder of the campaign, Third Army aggressively operationalized Ultra, often going beyond how other commands employed usually employed it.[47]

Maj. Warrack Wallace, Helfer's assistant, noted that Ultra "often is said to be primarily of strategic value and only useful tactically in a static situation. Perhaps its prime value is strategic, but Patton's use of Ultra in his historic drive across France is a fitting thesis for a tactical epic."[48] Patton's use of Ultra was unique in that he successfully operationalized strategic capabilities for tactical effects, thereby enabling operational-level maneuver. Where others may have seen the value of Ultra in indications and warnings, Patton saw the potential of Ultra to facilitate a greater understanding of the Germans across their entire operational depth. Instead of simply leveraging Ultra to prepare for German counterattacks or understand the forces directly facing him, he used it to sequence his actions and weight his efforts against German weakness. The awareness provided by Ultra allowed Patton to assume risk in guarding his flanks, and Patton himself remarked that Ultra "saved him the services of two divisions in the Third Army drive across France toward Germany in August and September."[49] If anything, 12th Army Group constrained Patton in his ability to operationalize Ultra to assume prudent risk and concentrate his forces on objectives. Patton continually engaged Bradley about relieving 35th Infantry Division of its responsibility for covering the Army Group's Flank along the Loire, noting that he had "studied the 'black market' dope [almost certainly Ultra] intently and could see no hazards there [south of the Loire]."[50]

When asked for feedback on Ultra in early September, Patton and Koch noted that their only complaint with the Ultra system was that they wanted more information of general significance, not just strategic warning.[51] They saw the value of Ultra lying in how it contributed to their overall visualization of dynamics

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across the theater. Because Patton had insight into what the enemy was going to do, he could do it first. Maneuver then facilitated intelligence collection in a virtuous cycle since the retreating Germans were forced to rely primarily on less secure radio rather than wire communications.[52] Because he had a unique insight into enemy intentions, he could effectively assume greater risks with his flanks and strike harder and faster. He also had greater insight into his friendly force situation due to the AIS, and he could prevent the enemy from clawing back insight into Third Army thanks to the SIS's communications security work. Combined, he continued to generate a distinct information advantage over the enemy, staying inside the German decision cycle.

Integrating Capabilities to Protect Information, Enhance Decision-Making, and Retain the Initiative

Third Army could generate information advantage during the pursuit because it went further than other allied Armies by aligning functions and information capabilities in complementary ways that increased efficiency. For instance, the G-2 was responsible for the Psychological Warfare Branch.[53] The branch was responsible for combat propaganda directed at enemy forces and "first phase consolidation work," or information operations directed at civilians.[54] It operated a radio station, distributed friendly propaganda through various means, and monitored enemy propaganda radio.[55] This alignment integrated all types of radio monitoring under the joint control of the G-2 and SIS. Thus, responsibility for the majority of Third Army's capabilities to attack enemy decision-making was consolidated under the same G-2 and SIS structure. The tight integration of the SIS, G-2, and Psychological Warfare Branch also provided the branch with access to the AIS's tactical information, which the European Theater Board later cited as critical to the success of psychological operations.[56] Incorporating the branch into the G-2 was a significant departure from 12th Army Group and First Army, which retained its Psychological Warfare Branches as part of a special staff section apart from the G-2.[57]
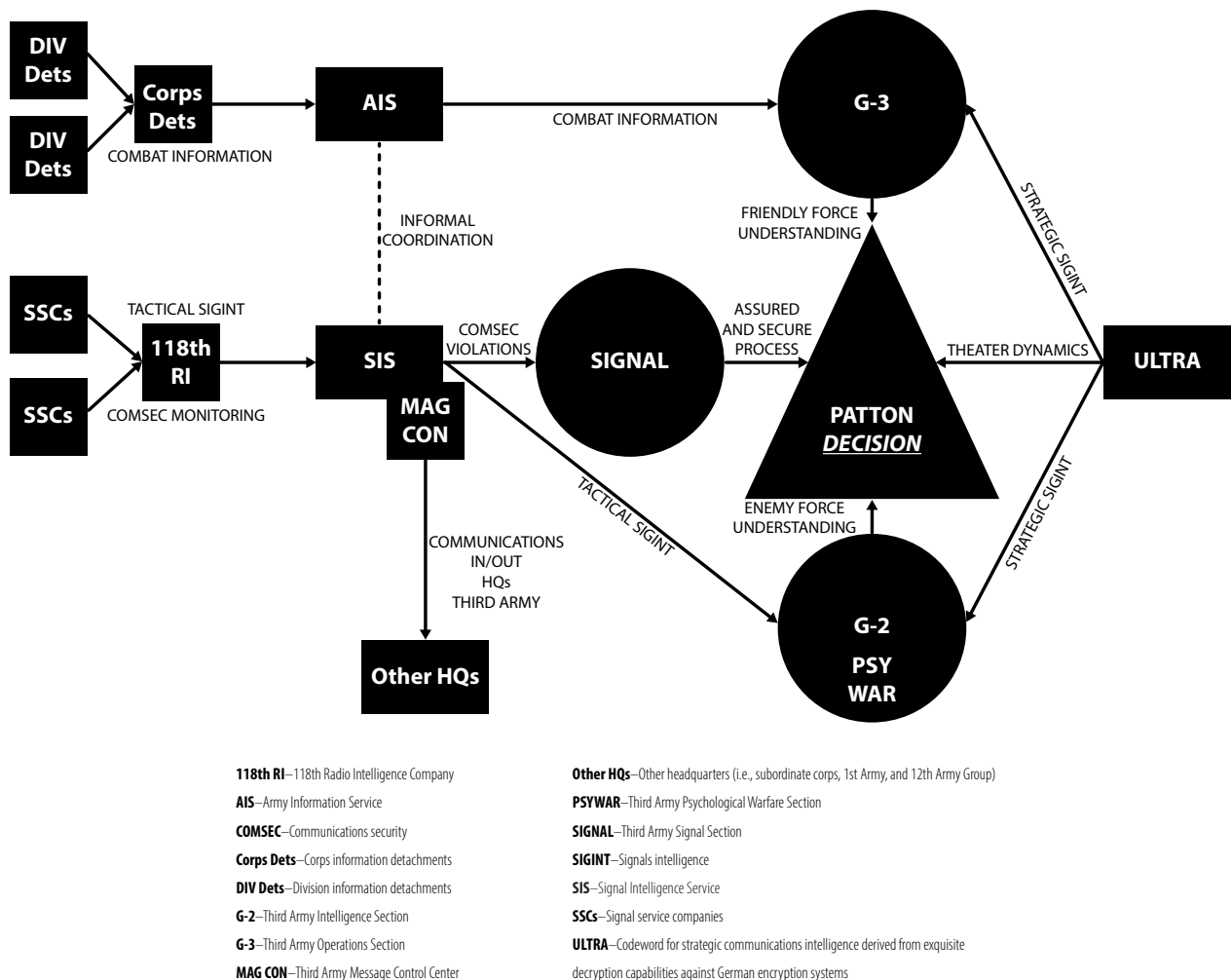
To increase efficiency and speed of decision execution, Third Army aligned like functions and placed the Third Army Message Control Center under the responsibility of the SIS.[58] This made the SIS responsible for monitoring which enemy and friendly communication paths were open. In addition, it was responsible for assuring the security and rapid transmittal of priority friendly information while simultaneously exploiting enemy communications. Both functions enabled friendly decision-making by assuring the security of friendly decision-making processes and ensuring timely, relevant, and comprehensive information flowed to decision-makers. The SIS was also best postured to attack enemy decision-making processes, denying information to and deceiving the enemy by coordinating radio countermeasures throughout Third Army. With all these functions integrated under one organization, Patton had the speed of decision-making and execution necessary to generate information advantage. This arrangement went further than other armies in the European theater of operations, which for the most part only arranged for close collaboration between the Message Center and the cryptologic security team.[59] The unique decision to place the Message Control Center under the SIS arose from Patton's vision for information advantage.

The AIS "Information Hunter": Extending Operational Reach

The August pursuit posed unique command and control problems for Third Army. Technical communications problems abounded, and following the breakout at Avranches and the crumbling of German resistance after the Mortain offensive, the rapid exploitation increased the distance between Third Army units. At times motorcycle couriers, run by the AIS, were the only reliable means of communication with some divisions.[60]

By 15 August, less than two weeks following its initial breakout near Avranches, Third Army had advanced nearly four hundred miles. It was responsible for the roughly north-south frontage from Argentan in Normandy to Orleans on the Loire.[61] Third Army had seized multiple positions along the Seine River and threatened to encircle Paris, effectively making it impossible for the Germans to organize an effective defensive line. XX Corps's 8th Armored Division had reached Chartres southwest of Paris, forcing Hitler to reposition elements of Army Group G from the south to face Third Army. XII Corps had seized Orleans south of Paris, and XV Corps was advancing east of Dreux to the west of Paris. There was a wild variety of operations conducted by mid-August. VIII Corps in Brittany was reducing

118th RI—118th Radio Intelligence Company

AIS—Army Information Service

COMSEC—Communications security

Corps Dets—Corps information detachments

DIV Dets—Division information detachments

G-2—Third Army Intelligence Section

G-3—Third Army Operations Section

MAG CON—Third Army Message Control Center

Other HQs—Other headquarters (i.e., subordinate corps, 1st Army, and 12th Army Group)

PSYWAR—Third Army Psychological Warfare Section

SIGNAL—Third Army Signal Section

SIGINT—Signals intelligence

SIS—Signal Intelligence Service

SSCs—Signal service companies

ULTRA—Codeword for strategic communications intelligence derived from exquisite decryption capabilities against German encryption systems

(Figure by author)

Figure 3. The Third Army Staff and Information Forces, Late August 1944

fixed positions. Elements of XII Corps were blocking the German 7th German Army's escape from the Falaise pocket, while XX Corps and XV Corps were driving east in a combination pursuit toward the Seine and the German frontier. The distances involved in Third Army's operations toward the middle to end of August put significant strain on the AIS's ability to communicate with its far-flung detachments. Subordinate corps were too far for effective ground wave communication but too close for twenty-four-hour sky wave communications.[62] The Third Army forward command post itself was also moving forward approximately every five days, further complicating communications.[63]

Thus, in mid-August, Third Army faced the challenge of maintaining situational awareness and

decision-making superiority in a battlespace that was enlarging by the hour, given limited manpower and unreliable communications technology. First, to address the communications technology shortfalls, the AIS developed new ways of getting the messages through. Where radio communications were impossible, the AIS ran motorcycle messenger and courier services.[64] The AIS also maintained advanced signal centers wherever the army and corps command posts were more than sixty miles apart. These centers relayed messages by radio and courier and provided AIS headquarters with a central distribution point for information.[65] In addition to passing information up to Army headquarters, the AIS also ensured lateral and downward communications and situational awareness. For example, the Third Army G-2

regularly used the AIS to pass intelligence information to lower echelons, noting that "when no other means was available, the AIS could get the information through."[66]

Second, by 15 August, the AIS discontinued friendly radio monitoring and retransmission to focus entirely on liaison.[67] Following the war, Patton explained this decision, noting that "information obtained by monitoring is incomplete and sometimes unreliable and must be confirmed by information obtained from other sources."[68] Instead, he concluded that information gained directly from liaison, particularly with staff at the division level, yielded the most reliable information with an acceptable time delay. Understanding Patton's information requirements at the army level, AIS headquarters could direct the search for information at lower echelons and guide liaison and patrol activities.[69] Refocusing the AIS on liaison rather than monitoring transformed it into an active rather than passive information gatherer.

The AIS's efforts extended Third Army's operational reach and prevented Third Army from culminating in central France in mid-August. Despite losing the 2nd French Armored Division to participate in the liberation of Paris and orders to keep the 6th Armored Division in Brittany, Third Army was still able to seize crossings over the Seine on 21 August before the Germans could react. XII Corps and XX Corps repulsed local German counterattacks against the Seine bridgehead at Sens, Montreau, and Melun, and Third Army drove east toward Metz and the still unmanned Siegfried line beyond.[70] In August's waning days, logistical shortfalls, not information shortfalls, began to hamper Third Army's pursuit to the German border. Despite receiving progressively less fuel, on 26 August, XII Corps's armored spearhead, the 4th Armored Division, reached Troyes, eighty miles southeast of Paris, overrunning the German defenders, and on 27 August, XX Corps captured Nogent.[71]

By 29 August, Third Army's gasoline shortage became acute, and the advance effectively stalled until 3 September. Third Army was now only seventy miles from the German border, having advanced over seven hundred miles in the past month.[72] This reduction in tempo progressively robbed Third Army of the initiative.[73] Without the sustained pressure, the German decision-making cycle began to "catch up." German Army Group G had time to start planning counterattacks that would buy additional time to man the Siegfried line.

Thus, when Third Army's offensive operations resumed on 5 September, they faced an enemy over which they had substantially less of an advantage.

Conclusion

Third Army's success during the August pursuit can be explained by its effective employment of purpose-built information forces and Patton's unique information advantage approach (see figure 3, page 63). The AIS and SIS served as an integrated information advantage enterprise, enhancing friendly decision-making and protecting friendly information while attacking enemy decision-making and disrupting the enemy's use of information. Third Army employed this system to the fullest as part of Patton's competitive approach to information and decision-making.

Third Army's information forces were militarily effective because they integrated information capabilities within information forces while ensuring operational concepts were consistent with available technology. The SIS was responsible for the bulk of the mission of protecting friendly information systems and processes. By placing the Message Control Center under the SIS, Third Army empowered the SIS not only with responsibility for the physical encoding or encryption of information but also the entire process of securing and delivering information to enable rapid and assured decision making by Third Army leaders. With the Psychological Operations Branch integrated into the G-2, G-3, SIS, and AIS structure, Third Army also possessed integrated processes for attacking enemy decision-making processes.

The AIS, for its part, focused on actively hunting information that could drive rapid decision-making. Along with SIS, the AIS assured systems and processes for better decision-making. While the AIS enhanced Third Army's friendly situational understanding, the SIS ensured information was secure from the enemy. Together this helped Third Army keep the "enemy rocking" and unable to get its "balance." Psychological operations and Third Army's aggressive pursuit allowed Third Army to exploit battlefield success and "mop them up," degrading German morale and encouraging surrender and desertion.

The continual use of maneuver to generate opportunities to exploit enemy information represents another less formal integration of capabilities. The insight provided by Ultra allowed Patton to achieve economy of

force and balance risk while maintaining his operational tempo. Aggressive maneuver combined with military deception attacked German cognitive processes, resulting in their generally poor ability to mass combat power at points where they could have halted Third Army. These information disadvantages compounded themselves. As the Germans continued to retreat, they lost control of cryptographic materials and were forced to abandon their secure wire communications and rely on less secure and reliable radio communications. This made their information systems and decision-making progressively more vulnerable to compromise and further disruption. Therefore, aggressive offense in the physical domain opened access into enemy communications that would be otherwise inaccessible given the limitations of available intelligence collection technology.

Third Army also excelled because Patton ensured that its approach to information advantage was consistent with available technology. The establishment of messenger services and relays as backups for radio communications enabled the AIS to continue functioning even when other elements could not communicate. This experience demonstrates the value of "the human element" in a communications degraded, intermittently connected, or low-bandwidth environment. As a student of history, Patton was familiar with the "directed telescope" concept, in which commanders used liaisons as their eyes and ears across the battlefield.[74]

Understanding Patton's information requirements and possessing a streamlined method for acquiring and relaying information, the AIS served as that "directed telescope," keeping the commander updated with the relevant and timely information necessary for decision-making. It also ensured that adjacent units had a shared situational understanding, permitting decentralized execution of a common approach. Without the AIS liaison and messenger services, Third Army would have struggled to acquire the information necessary to make timely decisions or lost confidence in its information and the integrity of its decision-making processes. Recognizing the limitations of communications technology, particularly in a contested electromagnetic spectrum, Patton created a system that mitigated these challenges by relying upon the "human element."

Throughout August, Third Army effectively generated information advantage, enabling dramatic operational level success. Instead of breaking through in Normandy, Third Army broke out, disintegrating German defenses and continually outpacing German attempts to establish new lines. Patton's competitive approach to information and Third Army's dedicated information forces contributed significantly to battlefield success during the August pursuit. His unique formations and information advantage approach allowed Third Army to anticipate decisions, retain the initiative, manage risk, and extend its operational reach. ■

Notes

1. Robert W. Williams, "Moving Information: The Third Imperative," *ARMY* 25, no. 4 (April 1975): 17.

2. Martin Blumenson, *Breakout and Pursuit* (Washington, DC: U.S. Army Center of Military History, 1993), 700.

3. United States Army Cyber Command (ARCYBER), "Operational Art for an Information Age Army" (speech, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 27 October 2020), 6.

4. Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Lawrence, KS: University Press of Kansas, 2011), 149.

5. Carlo D'Este, *Bitter Victory: The Battle for Sicily, 1943* (New York: Dutton, 1988), 140.

6. Dean A. Nowowiejski, *Concepts of Information Warfare in Practice: General George S. Patton and the Third Army Information Service, August-December, 1944* (Fort Leavenworth, KS: School of Advanced Military Studies, 1995), 16.

7. Oscar W. Koch and Robert G. Hays, *G-2: Intelligence for Patton* (Atglen, PA: Schiffer Publishing, 1999), 151.

8. George S. Patton Jr., *War as I Knew It* (Boston: Houghton Mifflin, 1947), 351.

9. Field Manual (FM) 11-35, *Signal Corps Intelligence* (Washington, DC: U.S. Government Printing Office, 1942), 2, accessed 8 September 2021, https://digitalcommons.unl.edu/dodmilintel/113/.

10. Third Army Radio Intelligence History in Campaign of Western Europe; File SRH-042, p. 24; Studies on Cryptology, ca. 1952 - ca. 1994; Records of the National Security Agency/Central Security Service, 1917–1998, Record Group 457; National Archives at College Park, College Park, MD (hereinafter cited as SRH-042).

11. FM 11-20, *Signal Corps Field Manual: Organizations and Operations in the Corps, Army, Theater of Operations, and GHQ* (Washington, DC: U.S. Government Printing Office, 1940), 45, accessed 8 September 2021, https://digitalcommons.unl.edu/usarmyfieldmanuals/1/.

12. *After Action Report: Third U.S. Army, 1 August 1944–9 May 1945: Volume II, Staff Section Reports* (Regensburg, Germany: Third U.S. Army, May 1945), pt. 22, "Signal," 4 (hereinafter cited as *After Action Report, Vol. II*).

13. Histories of Radio Intelligence Units European Theater September 1944 to March 1945 Volume 1; File SRH-228,

document 2, 6; Studies on Cryptology, ca. 1952 - ca. 1994; Records of the National Security Agency/Central Security Service, 1917–1998, Record Group 457; National Archives at College Park, College Park, MD (hereinafter cited as SRH-228).

14. *After Action Report: Third U.S. Army, 1 August 1944–9 May 1945: Volume I, The Operations* (Regensburg, Germany: Third U.S. Army, May 1945), pt. 11, "Special Annex A," 21 (hereinafter cited as *After Action Report, Vol. I*), accessed 14 October 2020, https://cgsc.contentdm.oclc.org/digital/collection/p4013coll8/id/2212.

15. Ellsworth B. Crowley, *The Fighting Sixth: History of the 6th Cavalry Regiment, 1861-1960* (Dallas: Military Publications, 1961).

16. *After Action Report, Vol. II*, pt. 4, "G-3," 10.

17. Williams, "Moving Information," 18.

18. *After Action Report, Vol. II*, pt. 4, "G-3," 10.

19. Robert D. Sweeney, "How Patton Kept Tabs on His Third Army," *Armored Cavalry Journal* 58, no. 2 (March-April 1949): 52.

20. George F. Howe, *American Signal Intelligence in Northwest Africa and Western Europe* (Fort George Meade, MD: Center for Cryptologic History, 2010), 126.

21. SRH-228, document 2, 10.

22. James Kelly Morningstar, *Patton's Way: A Radical Theory of War* (Annapolis, MD: Naval Institute Press, 2017), 185.

23. *After Action Report, Vol. I*, 18.

24. Morningstar, *Patton's Way*, 193.

25. *After Action Report, Vol. II*, pt. 4, "G-3," 12.

26. John Nelson Rickard, *Patton at Bay: The Lorraine Campaign, 1944* (Lincoln, NE: Potomac Books, 2004), 11.

27. *After Action Report, Vol. II*, pt. 4, "G-3," 29.

28. Ibid.

29. Walton H. Walker, *The Campaigns of Normandy and France, 1 August–1 September 1944: An Operational Report* (Carlisle, PA: Military History Institute, 12 November 1945), 7, accessed 16 February 2021, http://xxcorps.org/files/aug_sept_aars.pdf.

30. Morningstar, *Patton's Way*, 181.

31. Jonathan Gawne, *Ghosts of the ETO: American Tactical Deception Units in the European Theater* (Havertown, PA: Casemate, 2002), 309.

32. Morningstar, *Patton's Way*, 199.

33. Melvin C. Helfers, *My Personal Experience with High Level Intelligence* (Charleston, SC: The Citadel Archives and Museum, November 1974), 6–7.

34. Ibid.

35. Patton, *War as I Knew It*, 102.

36. Martin Blumenson, *The Patton Papers: 1940-1945, Volume II* (Boston: Houghton Mifflin, 1974), 503.

37. Martin Blumenson, *Breakout and Pursuit* (Washington, DC: U.S. Army Center of Military History, 1993), 457.

38. Ibid., 461.

39. Peter R. Mansoor, *The GI Offensive In Europe: The Triumph of American Infantry Divisions, 1941-1945* (Lawrence, KS: University Press of Kansas, 1999), 169.

40. *After Action Reports, XV Corps, 31 July 1944 to 9 May 1945* (Heidelberg, Germany: Seventh U.S. Army, 22 August 1945), 14, accessed 16 February 2021, https://cgsc.contentdm.oclc.org/digital/collection/p4013coll8/id/4318/.

41. Morningstar, *Patton's Way*, 206.

42. John W. DeGrote, *The 118th Signal Radio Intelligence Company, 1942-1946, Third U.S. Army, World War II* (self-pub., 1998), 64.

43. *After Action Reports, XV Corps*, 16.

44. Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge, MA: Harvard University Press, 2000), 432.

45. Robert S. Allen, *Lucky Forward: The History of Patton's Third U.S. Army* (New York: Vanguard Press, 1947), 208.

46. Ibid.

47. Alfred McCormack, Reports by U.S. Army ULTRA Representatives with Army Field Commands in the European Theatre of Operations, File SRH-023, part 1, 26; Studies on Cryptology, ca. 1952 - ca. 1994; Records of the National Security Agency/Central Security Service, 1917–1998, Record Group 457; National Archives at College Park, College Park, MD; Warrack Wallace, Report on Assignment with Third United States Army 15 August–18 September 1944, File SRH-108, pp. 3–4; Studies on Cryptology, ca. 1952 - ca. 1994; Records of the National Security Agency/Central Security Service, 1917–1998, Record Group 457; National Archives at College Park, College Park, MD (hereinafter cited as SRH-108).

48. SRH-108, 4.

49. Helfers, *My Personal Experience with High Level Intelligence*, 10.

50. Morningstar, *Patton's Way*, 219.

51. SRH-108, 6.

52. DeGrote, *The 118th Signal Radio Intelligence Company*, 59.

53. *After Action Report, Vol. II*, pt. 3, "G-2," 15.

54. Ibid., 16.

55. Ibid.

56. The General Board, *Psychological Warfare in the European Theater of Operations*, Study No. 131 (Paris: The General Board, United States Forces, European Theater, November 1945), 20, accessed 19 January 2021, https://carlcgsc.libguides.com/ld.php?content_id=52621679.

57. Ibid., 20.

58. *After Action Report, Vol. II*, pt. 3, "G-2," 9.

59. The General Board, *Signal Corps Operations*, Study No. 111 (Paris: The General Board, United States Forces, European Theater, November 1945), 34, accessed 19 January 2021, https://carlcgsc.libguides.com/ld.php?content_id=52621625.

60. *After Action Report, Vol. II*, pt. 4, "G-3," 15.

61. Morningstar, *Patton's Way*, 210.

62. George Raynor Thompson and Dixie R. Harris, *The Signal Corps: The Outcome (Mid-1943 through 1945)* (Washington, DC: US Army Center of Military History, 1991), 119.

63. DeGrote, *The 118th Signal Radio Intelligence Company*, 59.

64. Robert Willoughby Williams as told to Lyman C. Anderson, "Third Army Reconnaissance," *The Cavalry Journal* (January-February 1945): 22.

65. *After Action Report, Vol. II*, pt. 4, "G-3," 15.

66. Ibid., 13.

67. Ibid., 15.

68. The General Board, *Army Tactical Information Service*, Study No. 018 (Paris: The General Board, United States Forces, European Theater, November 1945), 2, accessed 19 January 2021, https://carlcgsc.libguides.com/ld.php?content_id=52565749.

69. *After Action Report, Vol. II*, pt. 4, "G-3," 15.

70. Morningstar, *Patton's Way*, 213.

71. Ibid., 211.

72. Ibid., 224.

73. Allen, *Lucky Forward*, 137.

74. Nowowiejski, *Concepts of Information Warfare in Practice*, 19.