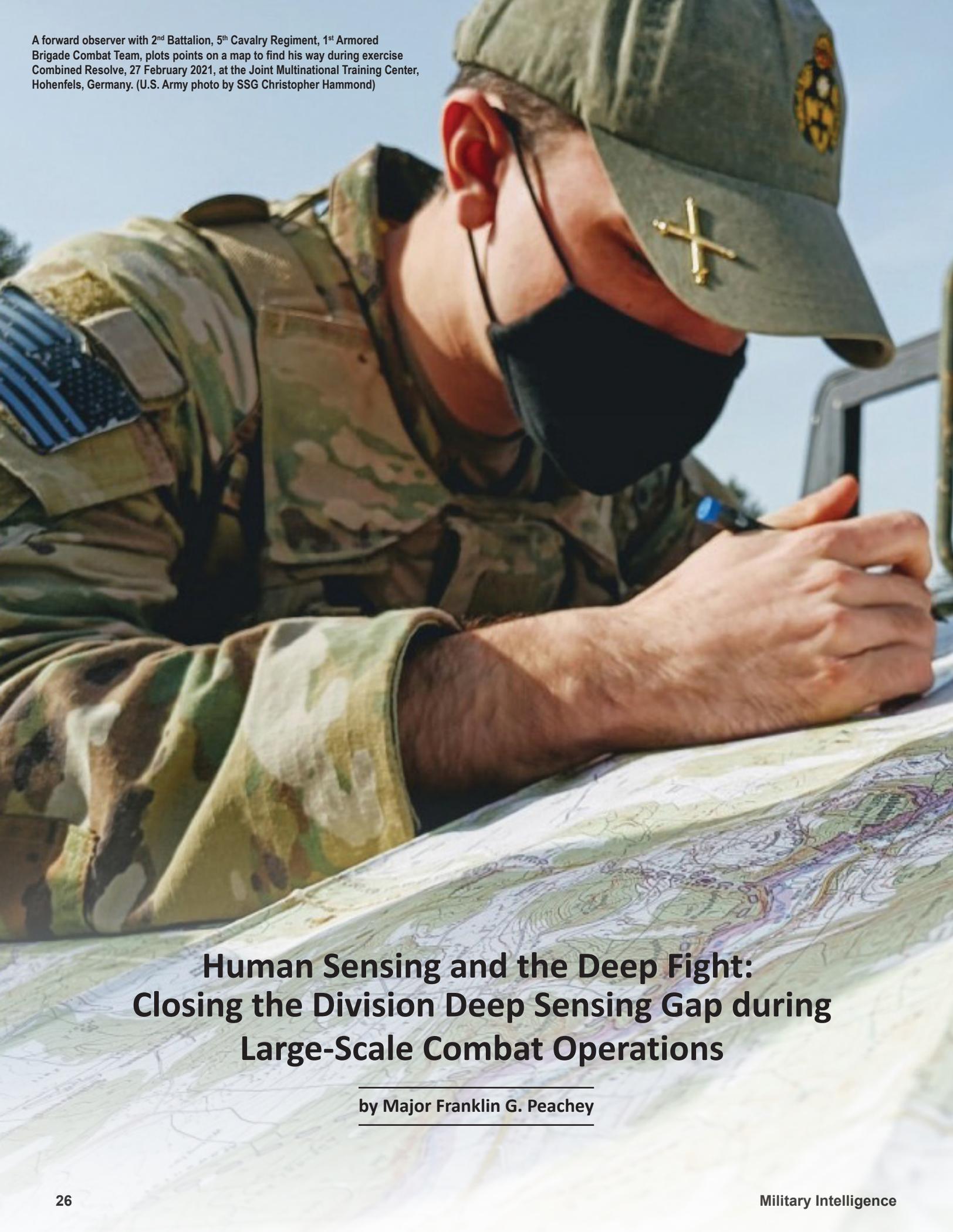


A forward observer with 2nd Battalion, 5th Cavalry Regiment, 1st Armored Brigade Combat Team, plots points on a map to find his way during exercise Combined Resolve, 27 February 2021, at the Joint Multinational Training Center, Hohenfels, Germany. (U.S. Army photo by SSG Christopher Hammond)



Human Sensing and the Deep Fight: Closing the Division Deep Sensing Gap during Large-Scale Combat Operations

by Major Franklin G. Peachey

Winter 2020—On a Dirt Road in Eastern Europe

A nameless dirt road in Eastern Europe has finally frozen solid after the tracks of an American armored division churned it into a morass of knee-deep mud. In patches, however, and off to the left and right of the road as far as the eye can see, the smoldering hulks of armored and wheeled vehicles litter the landscape. Earlier that morning, portions of the 16th Armored Division had been completing a logistical resupply to resume their movement to contact with a templated under-strength enemy motorized rifle division. As they did their work, mass rocket fire—including top-attack and thermobaric munitions—from an unseen enemy destroyed more than half of two combined arms battalions and numerous resupply vehicles in minutes. Brigade counter-fire radars tracked some of the incoming rockets originating from nearly 40 kilometers away.

The brigade combat team (BCT) that these battalions belonged to did everything right. They had their cavalry squadron screening as far to their front as their Paladins (self-propelled artillery) could shoot. The significant intelligence capabilities from the BCT military intelligence company were effectively task-organized and employed in the most favorable positions possible, with their Shadow (unmanned aircraft system) attempting to look deep within the BCT area of operations. However, a mixture of dense vegetation, rough terrain, bad weather, and electromagnetic interference routinely limited the quality and depth of the military intelligence company's sensing capabilities to the close fight.

In an ominous sign, when the BCT collection manager asked division for support from their Gray Eagle (unmanned aircraft system), the response was that division collection faced similar challenges. Also, a high enemy air defense threat imposed a limiting range on the division's combat aviation brigade up to the forward line of troops for reconnaissance purposes. Unfortunately, other division reconnaissance was unavailable—a squadron from what was supposed to be the corps reconnaissance and security BCT never materialized—and the 16th Armored Division required all of its combat effective units for the close fight. With the BCT's and division's capabilities either committed or negated, division looked to corps and above to close their deep sensing gap. The picture did not get any clearer. Corps told the division, when they were sporadically able to communicate with one another, that most assets were committed, another unit was a higher priority, or that corps assets were also operating at a degraded capacity.

No one wanted to go down this dirt path, and the undulating terrain of forested hills, rocky outcrops, and marshy fields had been an eye-opener for those accustomed to fighting in the vast expanse of the desert. Now, instead of seeing for miles and having an abundance of available collection assets, the division's BCTs were lucky if they knew what was beyond the next terrain feature. The corps headquarters was facing operational threats of its own, and the division was practically blind—outside of the sporadic intelligence reports that got through from corps—in its ability to project combat power beyond the close fight. As they would soon find out, the fire-strike received earlier that morning was only the start of their concerns as massed mechanized formations quickly overran individual BCT cavalry squadrons. For the 16th Armored Division, it was only the start of a long, cold, hard winter as its BCTs routinely made contact without advanced warning. If the 16th Armored Division was going to shape the fight for its BCTs, it needed the capability to sense deep despite dense vegetation, rough terrain, bad weather, and enemy interference.

The Problem

This fictitious scenario focuses on a nonexistent, though representative, U.S. 16th Armored Division participating in large-scale combat operations against a peer enemy in Eastern Europe. The scenario is an example of a specific type of warfare against a competent and well-equipped enemy the U.S. Army has not had to confront in nearly three decades and in routinely restricted terrain that has not posed a challenge in generations. As with Task Force Smith during the Korean War, the 16th Armored Division was not prepared to face the enemy on equal or superior terms. Its inability to sense within its deep area was one of the crucial factors inhibiting it from visualizing the battlefield, gaining an accurate situational understanding, and shaping the fight for its BCTs.

Through a 4-year study published in late 2019, the Combined Arms Center identified 17 critical capability gaps in the Army's ability to execute large-scale combat operations.² One area that has gained particular attention, with long-range precision fires having become the Army's top modernization priority, is the Army's ability to sense deep at echelons above the brigade.³ While the Army focuses on sensing deep in support of potential capabilities like the strategic long-range cannon, it is important to consider a division's limited ability to sense tactically within its deep area and the way in which a human sensing capability can aid in closing this gap. Human sensing, in this context, is the activity of human sensors gathering information within a division's deep area to develop actionable intelligence for division operations.



U.S. Army photo by PFC James J. Jacquet

Men of the 19th Infantry Regiment work their way over the snowy mountains about 10 miles north of Seoul, Korea, attempting to locate the enemy lines and positions. January 3, 1951.

The current sensor gap in the division's deep area during large-scale combat operations consists of a lack of both technical and human sensing capabilities responsive to a division's deep sensing needs.⁴ With most division technical and human sensing capabilities currently committed at a different echelon or gone—replaced only potentially with unequal support from expeditionary-military intelligence brigades and reconnaissance and security BCTs—the gap that battlefield surveillance brigades were meant to bridge is now a severe obstacle to a division's effectiveness. The result of this division deep sensing gap is that for a division to sense within its deep area proactively and to compete during large-scale combat operations effectively, it is “completely dependent on capabilities organic to subordinate brigades or joint, theater, or national assets.”⁵ While numerous technical sensing capabilities exist at corps and above, “the priority of collection for those assets is set by another commander,” and access is dependent upon availability and connectivity.⁶ Divisions are dependent upon the predominance of technical sensing held at echelons above the division as they prepare for the next large-scale combat operation against a threat capable of degrading access to those sensing capabilities.

This article argues that, while technical sensing advanced greatly in the last few decades, the division requires a human sensing capability to contribute in closing its deep sensing gap during large-scale combat operations. Human sensors most effectively contribute by focusing on an enemy's dispositions, composition, and course of action to provide information to a commander and their staff, which

improves the time, space, and flexibility to plan and execute operations. For a division to fully leverage these advantages, it must—

- ◆ Have its own dedicated human sensing capabilities capable of collecting within the expected operational environment.
- ◆ Employ its technical and human sensing capabilities in a coordinated and complementary way.
- ◆ Actively plan and coordinate the leveraging of all human sensing capabilities within its deep area, including special operations forces (SOF) and interagency elements.

The History

Historical case studies of divisions executing large-scale combat operations in both Vietnam and Iraq demonstrate the importance of being able to sense within the division's deep area.

During the 1st Cavalry Division's operations into Cambodia as part of Toan Thang 43, the division effectively leveraged both its airmobile reconnaissance squadron, the 1st Squadron, 9th Cavalry Regiment, and its company of rangers, H Company.⁷ The Army had not operated inside Cambodia during its years in Vietnam, and limited intelligence was available from strategic elements like SOF and interagency elements within their area of operations. As forces crossed the border in May 1970, 1st Squadron, 9th Cavalry Regiment, and H Company proved instrumental in identifying the withdrawing enemy's dispositions, composition, and course of action throughout the area of operations. This information, along with the identification of significant enemy logistical base camps, allowed the 1st Cavalry Division to rapidly transition into base clearing operations.

A little over 30 years later, the 3rd Infantry Division crossed into southern Iraq in 2003 and began its relentless drive toward Baghdad as part of Operation Iraqi Freedom. Since 1970, numerous revolutions in military affairs occurred, drastically increasing divisional access to technical sensing capabilities to an extent unprecedented in history. It was, however, the division's reconnaissance squadron, 3rd Squadron, 7th Cavalry Regiment, in coordination with technical sensing and support from SOF and interagency elements, that rapidly assessed a situation quite different than anticipated during planning. These human sensors rapidly identified the dispositions, composition, and course of action of the well-armed and fanatically driven Fedayeen and the notable absence of significant conventional Iraqi forces.⁸ This information enabled the division leadership to accept

risk and continue to press the tempo of operations. As the 3rd Infantry Division got closer to Baghdad and confronted conventional forces, the interplay of technical sensing and human sensing provided 3rd Infantry Division leaders with the time, space, and flexibility to take prompt action, ultimately resulting in the collapse of the Iraqi regime.

The Assessment

The U.S. Army today fields the most lethal brigades that have ever existed, but for them to win the close fight, they require a division capable of shaping the deep fight. If divisions are to dominate within the land domain during large-scale combat operations, then the Army must focus on enabling tactical, as well as strategic, deep sensing. To start, divisions should have their own dedicated human sensing capabilities. These sensors do not have to be a cookie-cutter replication of the division cavalry squadrons employed in Iraq, nor do they need to be an imitation of long-range reconnaissance and surveillance teams borne out of Vietnam. The relative strengths and weaknesses of different human sensors vary across mission variables and are relative to the operating environment in which they are employed. Their development and structuring, therefore, must align with a division's pacing threat and the expected operational environments they are to operate within, whether in Europe, the Pacific, or elsewhere.



U.S. Army photo by SPC Dustin D. Biven, 2nd Mobile Public Affairs Det.

A cavalry scout assigned to Headquarters and Headquarters Company, 1st Battalion, 63rd Armor Regiment, 2nd Armored Brigade Combat Team, 1st Infantry Division, uses his radio to report simulated enemy activity in the area of his unit during a field training exercise for Combined Resolve X in Hohenfels Training Area, Germany, May 4, 2018.

Finally, the realignment of dedicated human sensing capabilities to divisions must not be at the expense of technical sensing. Instead, human and technical sensors should be seen as complementary to one another and employed through a whole-of-sensor approach. In addition, divisions must recognize and seek to leverage those human sensors already operating within a division's area of operations—specifically SOF and interagency elements—as part of the approach. If divisions can rebuild their capacity to sense and effectively shape within their deep areas, through the dedication of human sensors and the development of a whole-of-sensor approach, a significant step toward the retention of land dominance will have been achieved.

Summer 2021: Deep Sensing and Land Dominance

It had been a steep learning curve for the 16th Armored Division. While U.S. forces had taken a severe blow, they were recovering and gaining windows of relative advantage across various domains against the enemy. During the spring, while the division was reconstituting in corps reserve, it received the mechanized 3rd Squadron, 89th Cavalry Regiment, to act as its division cavalry, and a long-range reconnaissance and surveillance detachment to act in direct support of its operations. The 16th Armored Division's commander and its chief of staff immediately integrated these new human sensing capabilities into the division's collection process. They appointed a chief of reconnaissance, which, in coordination with the division collection manager, ensured that both the cavalry squadron and the long-range reconnaissance and surveillance teams could execute their operations in coordination with technical sensors from the division and the joint force. In addition to the internal coordination, the chief immediately began a constant dialogue with SOF and interagency elements in the respective area of operations they were to assume in the summer.

In July, the 16th Armored Division moved out of corps reserve and promptly received a mission to attack a degraded enemy motorized division conducting a hasty defense in 72 hours. Fortunately, through continuous contact with SOF and interagency elements operating beyond the forward line of troops, the chief of reconnaissance and division collection manager had draft plans in place for the employment of available joint force and division collection assets. Because of this, the division rapidly deployed its cavalry squadron into its deep area against initial reconnaissance objectives in anticipation of the 16th Armored Division's attack. Simultaneously, the division inserted its highly mobile long-range reconnaissance and surveillance teams deep into the enemy's

support area based on information gained from SOF and interagency elements engaging with the local populace. These teams were able to both validate the condition of key infrastructure and surveil high-payoff targets for the division.

At 0600 on July 4, 24 hours before 16th Armored Division's attack, the long-range reconnaissance and surveillance teams received intelligence from a ground movement target indicator report of unidentified enemy movement inconsistent with the expected enemy defensive course of action. Corps and division unmanned aerial systems had not been able to provide additional clarification of the report because of a high enemy air defense threat; however, corps assessed the anomaly to be heavy logistical traffic. An hour later, a long-range reconnaissance and surveillance team surveilling a key intersection behind the enemy's front gained visual identification of a column of at least a battalion of enemy armor moving toward the front. The enemy was supposed to be badly mauled and, according to the most likely enemy course of action, in a hasty defense. It was not supposed to have armor, and it certainly was not supposed to be moving rapidly west along this avenue of approach. The team immediately transmitted this information back to the division, where the chief of reconnaissance informed the division cavalry, and the division collection manager began queuing available sensors to look at named areas of interest associated with the enemy's assessed most dangerous course of action—a spoiling attack.

Armed with this information early (time), the division commander rapidly considered the options available as the division cavalry prepared to meet a potential armored attack (space). If the cavalry, along with fires from the division and the joint force, was able to fix this attack, an opportunity might present itself to conduct the division attack early and under more favorable circumstances. The division began coordinating internally and externally to prepare for the armored attack and to conduct an immediate counter-attack (flexibility).

At 1100 on July 4, the smoldering remains of an enemy armored column still in traveling formation sit along a dirt road in Eastern Europe. Off to the left and to the right, burned-out hulks of an enemy motorized rifle division remain in their hastily dug battle positions. Earlier that morning, as long-range reconnaissance and surveillance teams began directing long-range precision fires against enemy air defense and command and control nodes, the division's artillery and attack helicopters quickly destroyed the attacking enemy armor column as the 3rd Squadron, 89th Cavalry Regiment, first made contact and then quickly maneuvered to decisive points within the enemy's defense. Over the next hour, what had started as an enemy spoiling attack rapidly turned into an enemy rout as a coordinated and complementary sensing plan focused the full might of the 16th Armored Division and the joint force. Not only had the division regained its ability to sense within its deep area, but also, more importantly, it had reclaimed its ability to dominate on the battlefield. 

Endnotes

1. This article is adapted from a previously completed master's thesis. Franklin G. Peachey, "Human Sensing and the Deep Fight: Closing the Division Deep Sensing Gap During Large-Scale Combat Operations" (master's thesis, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 2020).

2. Dennis S. Burket, "The Evolution of the Division Formation," in *Large-Scale Combat Operations: The Division Fight*, ed. Dennis S. Burket (Fort Leavenworth, KS: U.S. Army Combined Arms Center and U.S. Army Command and General Staff College Press, 2019), 7–18, 11; and Tisha Swart-Entwistle, "Lundy retires, becoming senior mentor," *Fort Leavenworth Lamp*, January 16, 2020, <https://www.ftleavenworthlamp.com/community/2020/01/16/lundy-retires-becoming-senior-mentor/>.

3. Mark Pomerleau, "The Army targets systems to 'see' 1,000 miles," C4ISRNET, April 2, 2019, <https://www.c4isrnet.com/c2-comms/2019/04/02/the-army-targets-systems-to-see-1000-miles/>.

4. Robert S. Mikaloff, "Division Intelligence: Looking Deep to Win Close," in *Large-Scale Combat Operations: The Division Fight*, ed. Dennis S. Burket (Fort Leavenworth, KS: U.S. Army Combined Arms Center and U.S. Army Command and General Staff College Press, 2019), 79.

5. Ibid.

6. Ibid.

7. Before February 1969, H Company was an elite conventional unit (E Company, 52nd Infantry) that conducted long-range reconnaissance patrols. The Rangers of H Company executed similar dismounted human sensing operations in May 1970.

8. Gregory Fontenot, E.J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 2004), 127; and Jim Lacey, *Takedown: The 3rd Infantry Division's Twenty-One Day Assault on Baghdad* (Annapolis, MD: Naval Institute Press, 2007), 49.

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