

Strategy "in a microcosm": Processes of tactical learning in a WWI German Infantry Division¹

Christian Stachelbeck

Despite the defeat of 1918, the tactical warfare of German forces on the battlefields against a superior enemy coalition was often very effective. The heavy losses suffered by the allies until well into the last months of the war are evidence of this.² The tactical level of military action comprises the field of direct battle with forces up to division size. Tactics – according to Clausewitz, the “theory of the use of military forces in combat” – is the art of commanding troops and their organized interaction in combined arms combat in the types of combat which characterized the world war era – attack, defense and delaying engagement.³

¹ This paper is based on my book *Militärische Effektivität im Ersten Weltkrieg. Die 11. Bayerische Infanteriedivision 1915-1918*, Paderborn et al. 2010 (=Zeitalter der Weltkriege, 6). It is also a revised version of my paper: “Autrefois à la guerre, tout était simple”. La modernisation du combat interarmes à partir de l'exemple d'une division d'infanterie allemande sur le front de l'Ouest entre 1916 et 1918. In: *Revue Historique des Armées*, 256 (2009), pp. 14-31.

² See Niall Ferguson, *The Pity of War* (New York: Basic Books, 1999).

³ See Gerhard P. Groß, *Das Dogma der Beweglichkeit. Überlegungen zur Genese der deutschen Heerestaktik im Zeitalter der Weltkriege*. In: *Erster Weltkrieg - Zweiter Weltkrieg. Ein Vergleich. Krieg, Kriegserlebnis, Kriegserfahrung in Deutschland*, on behalf of Militärgeschichtliches Forschungsamt (Military History Research Institute) edited by Bruno Thoß and Hans-Erich Volkmann, Paderborn et al. 2002, pp. 143-166, here pp. 142-144. See Allan R. Millet/Williamson Murray/Kenneth H. Watman, “The Effectiveness of Military Organizations”, in Allan R. Millet and Williamson Murray, eds., *Military Effectiveness Volume 1 - The First World War* (Boston: Unwin Hyman, 1988), pp. 1-30, here p. 19.

Thus, we are talking about an intermediate level of command far below the strategic level of the top leadership of a country. Until the end of the Second World War, strategy in Germany was understood in a purely military context according to Clausewitz to be the “use of battle for the purpose of the war”. Notwithstanding this, tactical command and control can be considered the first step towards strategy. The achievement of strategic objectives requires a close connection with the operational level of command, which plans and coordinates tactical combat action for large-scale military operations.⁴

The question regarding the reasons for tactical-military effectiveness of forces in battle is closely related to their ability to respond to the manifold challenges they face in war, to learn and eventually to modernize. To this day, writers, especially Anglo-Americans, attribute superior tactical capabilities to the imperial contingent army and its leadership elites in an almost glorifying manner when compared to their opponents. They put this down to better military and innovative competences.⁵

Such positive assessments are in contrast to accusations of technophobia and an inability to develop that had already been made about the pre-war army. This contradiction is sufficient reason to take a closer look at processes of tactical learning and innovation by taking an infantry division command as an example. The events on the battlefield are observed and analyzed from a perspective that lies somewhere between the view of ordinary men “bottom up” and the senior military leadership “top down”, which has so far been given little consideration in research.⁶

This paper focuses on the 11th Bavarian Infantry Division (11th BID), which was established in France in April 1915 under the highly decorated commander Lieutenant General Paul Ritter von Kneußl.⁷ It was often employed at hot spots both at the Eastern

⁴ See Groß, *Das Dogma*, p. 143; and Karl-Heinz Frieser, *Blitzkrieg-Legende. Der Westfeldzug 1940*, 2nd edition, Munich 1996, p. 7.

⁵ See for instance John Mosier, *The Myth of the Great War. A New Military History of World War One* (London: Harper Perennial, 2001), p. 8; and Ferguson, *The Pity of War*.

⁶ See Sönke Neitzel's plea for returning war into an object of military history research. Sönke Neitzel, *Militär-geschichte ohne Krieg? Eine Standortbestimmung der deutschen Militärgeschichtsschreibung über das Zeitalter der Weltkriege*. In: *Geschichte der Politik. Alte und neue Wege*, ed. by Hans-Christof Kraus and Thomas Nicklas, *Historische Zeitschrift/Beiheft* 44, Munich 2007, p. 290.

⁷ Paul Ritter von Kneußl was commanding the 11th BID from its setup in April 1915 till August 1918 without interruption. As the son of a royal Bezirksamtmann from Lindau he joined the Bavarian army in

and the Western fronts and was for a while even considered an elite division. The western opponents still considered it one of the German army's first-class divisions in 1918.⁸

First, the the general characteristics of the process of modification of tactical doctrine in the German army between 1915 and 1918 will be outlined. This gradual development towards modern combined arms combat is referred to generally as a tactical transformation.⁹ This paper will then focus on the processes of learning and adaptation in the context of the Battle of Verdun in 1916 and the intensified tactical modernization in 1917/1918.

In the course of World War One, the Germans repeatedly tested innovative tactical procedures in places in the east and on the Italian front.¹⁰ In the end, however, the conditions of modern engineered trench warfare on the main front in the west were also crucial for the 11th Bavarian Infantry Division and the process of learning how to deal with and adapt to industrialized warfare.

1880 serving at all command levels and finally rising as general staff officer to the rank of brigade commander; in 1914 he proved his worth as field commander in France. Although the senior leadership had originally ignored him when appointing the commanding general of an army corps in June 1918, presumably because of a unfavourable statement in his evaluation report of 1917 and his strong anti-Prussian resentments, he eventually achieved this leadership position in the last stage of the war. A very important person at Kneußl's side was Major Wilhelm Ritter von Leeb who served as General Staff Officer in the 11th-BID until May 1917; in the Second World War he would become General Field Marshal.

⁸ Hermann Wendt, *Verdun 1916. Die Angriffe Falkenhayns im Maasgebiet mit Richtung Verdun als strategisches Problem*, Berlin 1931, p. 108; *Histories of two hundred and fifty one divisions of the German army which participated in the war (1914-1918)*, compiled from records of intelligence section of the general staff, American expeditionary forces, at general headquarters Chaumont France 1919, Washington 1920, p. 210.

⁹ See on the current understanding of the transformation concept e.g. in the reorganization of German armed forces since 1989/90 or in the discussion of "revolution in military affairs", a term that is also used by US-American military experts, Martin Rink and Marcus von Salisch, *Zum Wandel in deutschen Streitkräften von den preußischen Heeresreformen bis zur Transformation der Bundeswehr*. In: *Reform, Reorganisation, Transformation. Zum Wandel in deutschen Streitkräften von den preußischen Heeresreformen bis zur Transformation der Bundeswehr*. On behalf of Militärgeschichtliches Forschungsamt edited by Karl-Heinz Lutz, Martin Rink and Marcus von Salisch, Munich 2010, pp. 1-25, here p. 14.

¹⁰ Bruce I. Gudmundsson, *Stormtroop Tactics. Innovation in the German Army, 1914-1918* (New York et al.: Praeger Paperback, 1989), pp. 107-123 and pp. 129-138. See also David Zabecki, *The German 1918 Offensives. A Case Study in the Operational Level of War* (New York: Routledge, 2006), p. 69.

The transformation of tactical doctrine in the German Army from 1915 to 1918

In contrast to the eastern front, the troops in the west were lined up against each other in a huge density of men, materiel and modern arms. The military staffs took a bureaucratic approach to managing the industrialized war from a safe distance. A dense transportation network allowed even an inferior opponent to rapidly move his reserves in order to amass forces flexibly in sections threatened by offensives. The battles on the western front in 1915 confirmed a development that had been plain to see even in the early stages of the war: Defense as a form of combat was hardly considered an option by the German military before the war because of the dominance of offensive thinking, but it fully dominated the battlefield in the industrialized trench war.¹¹

As the situation was a tactical stand-off, offensive operational maneuver warfare – which was the type of action the German military elites preferred – must have seemed to be an immense challenge that could hardly be met. This, of course, did not result in a cessation of the fighting. Instead, the various military leaderships frantically searched for ways to escape the tactical dilemma with the aid of the technical means available in the First World War and to finish the war as victors. The rapid tactical breakthrough of the enemy's fortified defenses, before the opponent was able to use its reserves effectively, was a must for making the transition to operational maneuver warfare and seeking to decide the outcome of a battle. Tactical mobility on the basis of the optimization of fire and maneuver became the decisive factor in modern battle not only in attack, but also in defense, which had been neglected for a long time and predominantly planned as rigid defense. Between 1915 and 1918, the Germans gradually modernized their doctrine regarding attack and defense through an exchange of experiences in both directions of the military hierarchy. A tactical transformation took place as a simultaneous bottom-up and top-down process within which traditional and innovative doctrine and procedures were connected with each other in a kind of compromise. This successive transformation began when Erich von Falkenhayn was the Chief of the General Staff and it was considerably intensified in late 1916 by the third

¹¹ See David Stevenson, 1914-1918, *Der Erste Weltkrieg*, pp. 220-225 and William C. Fuller, *The Eastern Front*, in Jay Winter, Geoffrey Parker, Mary. H. Habeck eds., *The Great War and the 20th Century* (Hamburger Edition: Auflage, 2002), p. 59.

Oberste Heeresleitung (OHL- the German supreme command) under Paul von Hindenburg and Erich Ludendorff.¹²

The basis on which this transformation was built was more an intensive cooperation between all the branches and services, including the air force, at the level of uniformly structured infantry divisions. They were the “battle unit” (*Schlachteinheit*) for modernized combined arms combat operations and often changed positions between the front sections of the army corps in the second half of the war. This trend towards mobile combined arms combat operations was effectively connected with mission command (*Auftragstaktik*), a command principle which was established in the German army even before the war. Mission command was developed from Moltke’s tradition of the operational command and control of armies in the 19th century and was also applied to the lower echelons with the 1906 drill regulation for the infantry (*Exerzierreglement für die Infanterie*) because of the unpredictability of battle situations. It granted the recipient of an order down to the elementary tactical level a certain degree of independence to execute his mission as he considered fit, the commander’s intent being clearly specified. The idea of operating schematically in battle according to certain tactical procedures was completely rejected and each commander was required to adapt his thinking to the military situation.¹³

The idea behind the divisions adopting a mobile and cooperative approach to battle was to enable the German army to fight more effectively by making better use of

¹² See on the development of German tactics: Groß, *Das Dogma*, pp. 145-153; Martin Samuels, *Command or Control? Command, Training and Tactics in the British and German Armies 1888-1918* (London: Routledge, 1995); Timothy Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War*, Leavenworth Papers No. 4 (Leavenworth: United States Government Printing, 1981); Ralf Raths, *Vom Massensturm zur Stoßtrupptaktik. Die deutsche Landkriegstaktik im Spiegel von Dienstvorschriften und Publizistik 1906 bis 1918*, Freiburg i.Br. et al. 2009 (=Einzelschriften zur Militärgeschichte, 44). For all parties see also the overview in Stevenson, 1914-1918, pp. 219-242. On the British Army see Paddy Griffith, *Battle Tactics of the Western Front. The British Army’s Art of Attack 1916-18* (London: Yale University Press, 1994). Last at the example of the 3rd British Army Jonathan Boff, “Combined Arms during the Hundred Days Campaign, August-November 1918”, in *War in History* 17 (2010), pp. 1, 459-478.

¹³ On *Auftragstaktik* before the outbreak of the war see Stephan Leistenschneider, *Auftragstaktik im preußisch-deutschen Heer 1871 bis 1914*, Hamburg et al. 2002. See Samuels, *Command or Control?* and recently Jörg Muth, *Command Culture. Officer Education in the U.S. Army and the German Armed Forces, 1901-1940, and the Consequences for World War II* (Denton: University of North Texas Press, 2011), p. 173.

firepower and weapons technology and above all to reduce its severe losses, which were very hard to make up as the war went on. In battle, men were increasingly replaced by machines. In contrast to the allies, however, the tank as an embodiment of firepower and rapid protected maneuver hardly mattered for the Germans. The third OHL neglected the production of tanks in favor of submarines and aircraft which, in their opinion, were more urgently required. For a long time, the troops and the military leadership were of the opinion that the vehicles, which were cumbersome and could hardly move across terrain, were of little use despite their impact on morale in battle.¹⁴

New and continuously improved regulations for command and control and training, which were based on the war experiences of the troops, fixed the process of tactical modernization. Ludendorff sped up this process after late 1916, but he did not want to establish the standard doctrine, based on the German concept of mission command, as a rigid scheme for the lower echelons. They generally gave the responsible commanders a certain freedom of action in accordance with the pre-war regulations in order to enable them to carry on in battle as they were accustomed to doing and to take action as the situation required.¹⁵

The tactical transformation under the conditions of an inadequately trained mass army, which most German leadership elites skeptically regarded as a “militia army,”¹⁶ by no means went simply and smoothly due to the conflict between specific echelons.

¹⁴ See Der Weltkrieg 1914-1918, vol. 12, edited by Kriegsgeschichtliche Forschungsanstalt des Heeres, Berlin 1939, 16-63. See Hew Strachan, “The Morale of The German Army, 1917-18”, in Hugh Cecil and Peter H. Liddle, eds., *Facing Armageddon. The First World War Experienced* (London: Pen & Sword Paperbacks, 1996), pp. 383-398, here p. 383 in a critical discussion of Michael Geyer’s theory of a radical change towards machine warfare by 3rd OHL. See Michael Geyer, *Deutsche Rüstungspolitik 1860-1980*, Frankfurt/M. 1984, pp. 13, 98-118 as well as Tim Travers, *The Killing Ground. The British Army, the Western Front and The Emergence of Modern Warfare, 1900-1918* (London: Unwin Hyman, 1990), p. 261. On the development of tanks see Alexander Fasse, *Im Zeichen des “Tankdrachen“. Die Kriegführung an der Westfront 1916-1918 im Spannungsverhältnis zwischen Einsatz eines neuartigen Kriegsmittels der Alliierten und deutschen Bemühungen zu seiner Bekämpfung*, Diss. Phil. HU Berlin 2007 and recently Ralf Raths, “German Tank Production and Armoured Warfare, 1916-18”, *War & Society* 30 (2011), pp. 1, 24-47.

¹⁵ See Exerzierreglement für die Infanterie, Berlin 1906, p. 102. See Grundsätze für die Führung der Abwehrschlacht im Stellungskriege, Berlin September 1917 (= Sammelheft der Vorschriften für den Stellungskrieg, 8), Nr. 6.

¹⁶ See Oliver Stein, *Die deutsche Heeresrüstungspolitik 1890-1914. Das Militär und der Primat der Politik*, Paderborn et al. 2007 (=Krieg in der Geschichte, 39), p. 133.

Even the revised pre-war regulations were mostly compromises connecting new and old features in many ways.¹⁷ Ludendorff's conduct when he was in charge of the modernization process was often characterized by uncertainty and contradictions. Traditional convictions such as never giving up conquered ground in the enemy country and the classical concept that "withdrawal means defeat" were obviously deeply ingrained. Ludendorff turned down several applications from units to abandon ground although the regulations no longer included provisions regarding the rigid adherence to the principle of holding on to ground.¹⁸

This ambivalence also applied to the concept of mission command. Ludendorff instructed higher echelons in the army to comply with these regulations and to give more responsibility to the subordinate echelons. But he himself adhered to a centralist style of command which incurred many complaints from commanders and significantly boosted the development of the so-called "general staff or chief-of staff style of management" (*Generalstabs- bzw. Chefwirtschaft*). General staff officers from the OHL down to division level used this informal way, which often included the use of a telephone to make important decisions. As the war went on, the actual commanders-in-chief and commanders were increasingly bypassed.¹⁹

For the subordinate commanders, it was ultimately success on the battlefield that mattered and that earned a commander prestige and recognition. If he failed, however,

¹⁷ As an example *Exerzierreglement für die Infanterie*, Berlin 1906. See Christian Müller, *Anmerkungen zur Entwicklung von Kriegsbild und operativ-strategischem Szenario im preußisch-deutschen Heer vor dem Ersten Weltkrieg*. In: *Militärgeschichtliche Mitteilungen*, Vol. 57 (1998), pp. 2, 385-442.

¹⁸ See *Der Weltkrieg 1914-1918*, vol. 13, edited by *Kriegsgeschichtliche Forschungsanstalt des Heeres*, Berlin 1942, pp. 110, 338. An indication of Ludendorff's nervousness and insecurity regarding the "right tactical recipe" are his repeated telephone calls to *Heeresgruppen* and *armies*, see for instance *Bundesarchiv-Militärarchiv (BArch)*, RH 61/970, *Abschrift des persönlichen Kriegstagebuchs des Generals der Infanterie Hermann von Kuhl*, Entry of 6 October 1917. On the controversial personality of Erich Ludendorff in the war see also his new biography by Manfred Nebelin, *Ludendorff. Diktator im Ersten Weltkrieg*, Munich 2010.

¹⁹ See *Bayerisches Hauptstaatsarchiv, Abteilung IV Kriegsarchiv (BHStA/KA)*, 11. BID, *Bund (Bd.)* p. 82, *Dienstbetrieb 1915-1918, Chef des Generalstabes des Feldheeres II* Nr. 71593 *Betr. Einschränkung des Schreibwesens*, 28 November 1917; *Grundsätze zur Führung der Abwehrschlacht im Stellungskriege*, September 1917, Nr. 6a, d. See also Wolfgang Venohr, *Ludendorff. Legende und Wirklichkeit*, Berlin, Frankfurt/M. 1993, 219-223; Max von Gallwitz, *Erleben im Westen 1916-1918*, Berlin 1932, pp. 148, 180; Walter Görnitz, *Hindenburg. Ein Lebensbild*, Bonn 1953, 124ff; Herbert Rosinski, *Die Deutsche Armee. Eine Analyse*, Düsseldorf/Wien 1970, pp. 144, 270.

a commander was in danger of being “shamefully” replaced, especially during the tenure of Ludendorff, who ruled with an iron fist even among the highest ranks of the army.²⁰ Under these circumstances, it is no surprise that tactical learning at unit commander level, as the example of the 11th BID shows, progressed rather cautiously and gradually between well-trying practices and new developments.

The “Pacemaker” – Verdun in 1916

The large-scale battle of Verdun, which went on for several months, served – in addition to the Battle of the Somme – as a link and provided important impetus for tactical developments that led to modern combined armed combat operations.²¹ Accordingly, it also became a key, albeit bloody, experience for the division command in the process of adapting to and learning how to deal with industrialized warfare.

The offensive on the fortress on the river Meuse which had been launched by the 5th Army (Deutscher Kronprinz) in mid-February 1916 was the only major attack operation of the German Army up to the spring 1918. The lessons learned from the futile attempts at breaking through the enemy lines in the west in 1915 as well as the notorious lack of reserves led the German Chief of the General Staff, Falkenhayn, to pursue a strategy of attrition, an unusual step in view of German command and control thinking. By launching a limited offensive he hoped to provoke the French into mounting counterattacks in which they would suffer such heavy losses that they would bleed white, as the process was cynically called, in the face of the German defense with its strong artillery. In this way, combined with an unrestricted submarine war, he wanted to force the western opponents, in particular “arch enemy” England, into becoming willing to seek a peace settlement. Many officers in the German army, including Kneußl, however, did not understand this kind of warfare, which was directed at wearing down the enemy. It defied the dominant German concept of command and control, largely based on mobile warfare, battles of annihilation and the concept of envelopment. As it continued, the battle developed a prestigious dynamic,

²⁰ See Görlitz, Hindenburg, 170; Fritz von Loßberg, *Meine Tätigkeit im Weltkriege 1914-1918*, Berlin 1939, p. 280. See Gallwitz, *Erleben im Westen*, p. 283 and Venohr, Ludendorff, p. 224.

²¹ Christian Millotat, *Die Schlacht um Verdun 1916. Zur Anatomie einer Schlüsselschlacht des 20. Jahrhunderts*. In: *Militärgeschichte NF 6* (1996), pp. 26-34, here p. 31.

which had not been foreseen even by Falkenhayn. By early September 1916 it had triggered new subsequent German attacks of 48 divisions. In the end, 350,000 casualties among the German forces were proof of the bloody failure which reduced Falkenhayn's concept of attrition to absurdity.²²

The attack tactics of the German forces at Verdun were based on the mass employment of superior artillery forces – a move executed for the first time in January 1915 near Soissons – combined with the moment of surprise. The use of heavy calibers was meant to shake the enemy's morale and allow German infantry forces to penetrate the defender's lines across the crucial 100 meters of an assault. Another aim was to avoid unnecessary losses. "What was used in iron could be saved in blood"²³ – this was the conclusion drawn by a German general after the war. This massive use of ammunition and artillery, including poison gas, was later 'perfected' by all the parties to the war as a model for operational and tactical offensives in a trench war.²⁴

The basis of the so-called Soisson tactics was the principle that infantry and artillery forces should work together, a principle that was already known from the prewar period, but was now implemented more carefully in terms of time and space. The intention was initially to make local tactical offensive operations possible in a trench war. The 11th German Army (Mackensen) used this on the eastern front near Tarnów-Gorlice in May 1915 in an operational framework still combined with the principle of mission command where it was able to achieve a frontal breakthrough. The Germans benefitted from clear visibility, a surprised opponent who was inferior in artillery forces as well as mistakes in command and control on the Russian side. The 11th BID also had a considerable share in the success at Tarnów-Gorlice. Despite the

²² See Holger Afflerbach, *Falkenhayn. Politisches Denken und Handeln im Kaiserreich*, 2nd edition, Munich 1996 (=Beiträge zur Militärgeschichte, 42), pp. 351-375. See recently and extensively Robert T. Foley, *German Strategy and the Path to Verdun. Erich von Falkenhayn and the Development of Attrition 1870-1916* (Cambridge: Cambridge University Press, 2005), pp. 181-268. See also Kronprinz Rupprecht. *Mein Kriegstagebuch*, edited by Eugen von Frauenholz, vol. 1, Munich 1929, Entry of 12 February 1916; BArch, RH 61/970, Abschrift des persönlichen Kriegstagebuches des Generals von Kuhl, Entry of 12 February 1916; BHStA/KA, NL Kneußl, Diary (Tagebuch TB) VII, Entries of 13 and 14 March 1916. Casualties see Sanitätsbericht über das Deutsche Heer im Weltkriege 1914/18, vol. 3, Berlin 1934, p. 49.

²³ William Balck, *Entwicklung der Taktik im Weltkriege*, Berlin 1922, p. 83.

²⁴ See *Die Entwicklung der deutschen Infanterie im Weltkriege 1914-1918*, bearbeitet von der 7. Abteilung des Generalstabes des Heeres. In: *Militärwissenschaftliche Rundschau*, 3 (1938), pp. 367-419, here p. 374.

improved cooperation between the branches, the infantry nevertheless suffered heavy losses as a result of traditional attacks along dense skirmish lines. This was first and foremost due to a lack of fire power and thus also of the mobility of the troops, who were armed at Tarnów-Gorlice with hardly more than rifles.²⁵

To improve mobility in the trench war, the troops on the western front had tested innovative forms of assault or storm troop tactics since the fall of 1914. Slowly, it became a trend to use smaller, more mobile, more independent and more effectively equipped squads. Fire and striking power were gradually divided and the idea of cooperative combined arms combat was transferred to the elementary tactical level. This was the beginning of a process which Ludendorff later referred to as the "individualization of tactics."²⁶ From the spring of 1915 onward, these innovative forms of storm troops tactics were systematically developed under the aegis of the OHL by elite test forces, so-called assault battalions, that were composed of special engineer and infantry forces and equipped with new weapons. But it was not until 1917-1918 that the enhancements were fully integrated into new standardized service regulations.²⁷ Many commanders were, therefore, not yet familiar with modern combined arms action during the Battle of Verdun. Reckless pressure to advance and traditional agitation to attack regardless of losses in the offensive spirit of the pre-war period were by no means overcome.²⁸ As late as 1915, many officers, including Kneußl, still held the

²⁵ See *ibid*, pp. 374, 404; Afflerbach, Falkenhayn, p. 291 and following pages; and Gerhard P. Groß, *Im Schatten des Westens. Die deutsche Kriegführung an der Ostfront bis Ende 1915*. In: *Die vergessene Front. Der Osten 1914/15. Ereignis, Wirkung, Nachwirkung*. On behalf of Militärgeschichtliches Forschungsamt edited by Gerhard P. Groß, Paderborn et al. 2006 (=Zeitalter der Weltkriege, 1), pp. 49-64, here p. 59 and following pages. See also Oskar Tile von Kalm, *Gorlice, Oldenburg/Berlin 1930* (=Schlachten des Weltkrieges, 30). The procedure was developed by the III Prussian Army Corps whose Chief of Staff Colonel Hans von Seeckt later was appointed Chief of Staff of the newly established 11th Army. On this see also Hans von Seeckt, *Aus meinem Leben 1866-1917*, Leipzig 1938, pp. 65-208.

²⁶ Ludendorff, *Meine Kriegserinnerungen 1914-1918*, Berlin 1919, p. 306.

²⁷ On this see also Helmuth Gruss, *Aufbau und Verwendung der deutschen Sturmbataillone im Weltkrieg*, Berlin 1939.

²⁸ See BArch, RH 61/1681, *Kritiken und Bemerkungen zur Darstellung der Schlacht von Verdun* in vol. 10 *Der Weltkrieg 1914-1918, Stellungnahme Otto Muth, Rolle der Artillerie*, 1934, p. 6. See *ibid*, *Schreiben Generalleutnants außer Dienst Endre an das Reichsarchiv* January 1934, p. 12. See also Gudmundsson, *Stormtroop Tactics*, p. 61.

opinion that losses were a symbol of “merit” that boosted a unit’s reputation or standing.²⁹

The 5th Army did at least issue the front-line units directives for establishing assault teams and after-action reports that clearly indicated that losses should be reduced by means of branch interaction. At the same time, the divisions were integrated into distinctly centralized command and control structures, especially as regards artillery operations, often leaving them hardly any room to manage operations on their own in the ongoing battle. This restriction in the exercise of mission command led to severe clashes among the commanders.³⁰

As the 11th BID had participated in the breakthrough battle of Tarnów-Gorlice in May 1915, the division command had considerable experience in innovative mass artillery procedures. The conversion of the procedure into orders and operations at Tarnów-Gorlice provided the subordinate echelons in the division a certain freedom of action despite the coordination that had to be maintained with regard to time and space. As before, rigid schematizations were to be avoided and sufficient room was to be left for subordinate commanders to use their initiative in battle.³¹ Despite the infantry

²⁹ See Diary (Tagebuch TB) Griebenbeck VII, Entry of 14 July 1915 following a talk among the commanders of 11th BID and 107th Prussian Infantry Division at the East Front. The personal diaries and army letters of reserve officer Robert von Griebenbeck who had been a military aide in the staff of 11th BID have been preserved with the von Griebenbeck family in Landshut/Bavaria. I was kindly allowed to use them for my research.

³⁰ See BArch, RH 61/1168, Manuscript by Wilhelm Solger on the „Entwicklung des deutschen Angriffsverfahrens bis zum Beginn der großen Schlacht in Frankreich“, published in part in *Der Weltkrieg 1914-1918*, vol. 14, 1940, p. 5. See *ibid*, RH 61/1681, Kritiken und Bemerkungen zur Darstellung der Schlacht von Verdun in vol. 10 *Der Weltkrieg 1914-1918*, Stellungnahme Otto Muth, Rolle der Artillerie, 1934, pp. 1-8 and *ibid*, Schreiben Generalleutnants außer Dienst Andre an das Reichsarchiv, January 1934. See *Der Weltkrieg 1914-1918*, vol. 10, edited by Forschungsanstalt für Kriegs- und Heeresgeschichte, Berlin 1936, p. 68 and *Der Weltkrieg 1914-1918*, vol. 12, edited by Kriegsgeschichtliche Forschungsanstalt des Heeres, Berlin 1939, p. 31.

³¹ See as an example BHStA/KA, 11. BID, Bd. 4, Beilagen zum KTB 10 April 1915 „Kriegs-Erfahrungen über den Angriff gegen die befestigten Feldstellungen des Feindes (Notizen nach der mündlichen Besprechung des Div. Kdrs mit den Kdeuren)“: “The following explanations are proposals for the gentlemen to build on. This is cannot and will not be provided as a scheme.” See also *ibid*, Beilagen zum KTB 30 April 1915, Komb. Korps Korpsbefehl, 30 April 1915.

division commander's deep-rooted reservations about the artillery, there was no question that, after the battle, there was a need for decentralized interaction between the branches even at lower echelons for operations to be effective. In the course of the battle, it became obvious that, for instance, when command and control was exercised from the rear, immediate cooperation between artillery observers and infantry commanders or the combination of infantry and artillery forces forward were very important. Due to the impact of the immense successes, no reason was seen any more in 1915 for developing this cooperation beyond the necessary degree.³²

The offensive operations mounted by the 11th BID in mid-March 1916 on the western bank of the Meuse in the fortress area outside Verdun were altogether affected much more by the conflict between increasingly pedantic orders from above and the refusal of schematizations when it came to also implementing innovations down the chain of command. The division command also found itself in this dilemma, and still allowed some freedom of action in the implementation of tactical war experience despite the unit routines often being specified in great detail.³³ Always keen to maintain its own freedom, the division command found the rigid centralized command of the artillery by higher echelons even during the battle very unpleasant and annoying.³⁴ Nevertheless, the division command used all the means at its disposal to foster the decentralized cooperation within the division, which had since been boosted by numerous engineer mine and flamethrower squads and machine gun units. This also applied to the innovative storm troop tactics. Well-familiar communications and liaison

³² See BHStA/KA, 11. BID, Bd. 99, p. 3. bayerisches Infanterieregiment Nr. 1964 Betreff: Kriegserfahrungen hinsichtlich der Verbindung der Infanterie mit der Artillerie und hinsichtlich der Hinderniszerstörung, 7 December 1915 as well as *ibid*, comment brigade commander, 16 December 1915 and comment division commander, 6 January 1916.

³³ Despite the often scrupulously detailed instructions the preparatory field orders issued by the division often recommended to also consider war experiences as they might provide "good clues" for the conduct of combat operations. See BHStA/KA, 11. BID, Bd. 5, Beilage KTB 6 March 1916, 11. BID Angriffsbefehl Nr. 4, 6 March 1916.

³⁴ See *ibid*, 11. BID, Bd. 5, KTB Entry of 23 March 1916. Under the rather mobile warfare in the East, the division commander who even commanded a corps and had another division under his command, enjoyed more freedom of movement and discretion than under the cramped conditions at the western front. After the bitter experiences of Verdun Kneußl was looking forward to the difficult but independent mission at the onset of operations in the Romanian campaign. See *ibid*, NL Kneußl, TB X, Entry of 15 October 1916.

issues were not blindly ignored but there were severe warnings of the necessity of close cooperation beyond the traditional mental gap between the branches. The clear meaning of the orders was that unnecessary losses were to be avoided. These basic principles of modern battle were beyond all question for the division command.³⁵

In the battle, the division initially succeeded in conducting a full-blooded thrust against the French on the 20th of March 1916 in the Avocourt forest by exploiting a local surprise and applying the new storm troop tactics. More than 2,600 prisoners were able to be taken. However, in the second phase, the operation was conducted in open terrain against a defender with strong artillery and field defenses and developed more and more into a bloody tragedy, not least due to each level of command having unclear pictures of the situation. By late March 1916, the division mourned the loss of some 4,000 soldiers. In mid-May 1916, the division, which was so accustomed to success, was for the first time on the verge of completely losing its combat power and had to be withdrawn from the Verdun battle front in order to regenerate.³⁶ From June 1916 to the beginning of January 1917, the division was on the Eastern front in Russia and Romania, where the war was often waged as a mobile war, with more traditional tactical standards and “from the front.”³⁷ The division was often able to continue fighting as successfully as it had done in 1915, as the opposing forces were generally

³⁵ See on this *ibid*, 11. BID, Bd. 5, KTB Beilage, 4 March 1916, 11. BID Angriffsbefehl Nr. 2, 4 March 1916; *ibid*, KTB Beilage, 6 March 1916, p. 11. BID Angriffsbefehl Nr. 4, 6 March 1916; *ibid*, KTB Entries of 10 and 19 March 1916; *ibid*, KTB Beilage, 10 March 1916, p. 11. BID Divisionsbefehl, 10 March 1916 and *ibid*, KTB Beilage, 22 March 1916, p. 11. BID Betreff: Unglücksfall durch schweres Artilleriefeuer, 22 March 1916; *ibid*, KTB Beilage, 16 March 1916, 11. BID Divisionsbefehl Nr. 11, 16 March 1916 as well as *ibid*, KTB Beilage, 18 March 1916, Divisionsbefehl Nr. 13, 18 March 1916; *ibid* KTB Entry of 23 March 1916; *ibid*, KTB Beilage, 17 March 1916, 11. BID Divisionsbefehl Nr. 12, 17 March 1916.

³⁶ Cf. BHStA/KA, 11. BID, Bd. 16, Anlagen zum KTB 16-25 March 1916, Gefechtsbericht des Kommandeurs des 22. bayerischen Infanterieregiments über den Angriff am 20. März, 22 March 1916. Cf. *ibid*, Bd. 5, Akte Besondere Beilagen, Kriegsbeute 11. BID “Kämpfe vor Verdun”. Cf. *ibid*, Bd. 16, Anlagen zum KTB 16-25 March 1916, Gefechtsberichte des III. Bataillons 3. bayerisches Infanterieregiment, 25 March 1916 and 13. bayerischen Reserveinfanterieregimentes, 29 March 1916. Cf. *ibid*, NL Kneußl, TB VII, Entry of 22 March 1916 and TB VIII, Entries of 8 and 9 May 1916. Cf. *ibid*, 11. BID, Bd. 5, KTB Entry of 22 March 1916 and *ibid*, Akte Besondere Beilagen, Verlustübersicht 11. BID. Cf. *ibid*, Bd. 99, p. 11. BID an Generalkommando VI. Reservekorps Betreff: Zustand der Truppe, 9 May 1916. Cf. TB Griebenbeck XIII, Entry of 23 March 1916.

³⁷ Cf. for instance Studien zur Kriegsgeschichte und Taktik. Begegnungsgefechte “Die 11. bayerische Inf. Div. in der Schlacht am Argesul am 2. und 3. Dezember 1916”, edited by Generalstab des Heeres 7. (kriegswissenschaftliche) Abteilung, Berlin 1939, pp. 111-210, here p. 121.

less well equipped than those in the west, though it made no major progress in tactical learning until it returned to the Western front.

Intensified tactical modernization in 1917/18

At the end of 1916, the new German 3rd OHL initially drew the attention to the defense that had so far been conducted rather statically in a line. The experience gained in the large battles of 1916 at Verdun and at the Somme served as a base for the tactical enhancement. In view of the almost irreplaceable losses suffered, the OHL issued the guideline that commanders were to spare their own forces while wearing down the opponent in order to have enough forces available for launching an offensive to bring about a decision in the land war. Basically, this meant nothing more than a continuation of Falkenhayn's pre-Verdun attritional strategy, though, of course, the troops were now to change over from the defense and go on the attack again in the west, conducting maneuver warfare. The static defense was now transformed step by step into the elastic area defense, with a greater exchange of experience with the troops. The elastic defense was conducted on a mobile basis and by means of increasingly deep echeloning, with offensive action being primarily taken by reserves. At the same time, small combat units acting as assault teams – a principle applied to some extent at Verdun – were integrated into the combat troops and provided with weapons with greater firepower such as light MGs, flame throwers, mine launchers and grenade launchers. The individualization of tactics took place in the so-called "void of the battlefield". Initiative and independence up to the intermediate level of command now automatically took on a renewed central meaning as the rear staffs were hardly able to control the combat action. The OHL tried to use extensive training and standardized regulations to communicate the sophisticated concept, which had been developed together with the troops, down the chain of command in order to form a "broadly qualified mass army."³⁸

The Germans used the same approach to offensive training and combat in early 1918. The proven elements of surprise and avoiding heavy preparatory artillery fires for

³⁸ Cf. Groß, *Das Dogma*, pp. 147-153. See also Samuels, *Command or Control?*; Lupfer, *The Dynamics of Doctrine*. Cf. *Grundsätze für die Führung der Abwehrschlacht im Stellungskriege und Ausbildungsvorschrift für die Fußtruppen im Kriege* (A.V.F.), January 1917/January 1918.

days were a key part of the offensive. New artillery procedures which excluded, for example, registration fire, always a giveaway, were supposed to ensure that the artillery strike was much shorter but much more intensive. It was intended to paralyze the opponent and its command structures out of the blue with fire which was initially controlled on a centralized basis by higher commands.³⁹ In mobile and decentralized combined arms combat operations, the infantry divisions were consequently intended to quickly break through at the defender's weakest spots, protected by the artillery's rolling barrage and applying the assault team or storm troop tactics. The objective was to shift to maneuver warfare. The German military elites traditionally thought themselves to be superior to the opponent in the conduct of such warfare. Correspondingly, the OHL demanded the lower echelons to exercise mission command in a proactive and unschematic way, despite all the necessary strict guidelines issued from above.⁴⁰

The new tactical doctrine also met with broad approval among the 11th Bavarian Infantry Division's command as it deliberately allowed tactical commanders some freedom of action. The same applied to the guideline of making economical use of personnel resources. Nevertheless, there was also skepticism about intensified machine warfare, especially when it came to evasive action in the defense and the surrender of ground.⁴¹ The division command implemented many tactical innovations in training and combat on the basis of its own warfare experience and in compliance with the

³⁹ Cf. BArch, RH 61/1168, Manuscript by Wilhelm Solger on the "Entwicklung des deutschen Angriffsverfahrens bis zum Beginn der großen Schlacht in Frankreich", published in part in *Der Weltkrieg 1914-1918*, vol. 14, 1940, 30. Cf. *ibid*, RH 61/292, unpublished Manuscript by Langer on "Das Bruchmüllersche Angriffsverfahren", 1943 and *ibid*, unpublished manuscript by Langer on "Das Pulkowskische Verfahren", 1944; Georg Bruchmüller, *Die Deutsche Artillerie in den Durchbruchsschlachten des Weltkriegs*, 2nd edition, Berlin 1922 and Georg Bruchmüller, *Die Artillerie beim Angriff im Stellungskrieg*, Berlin 1926; Hans Linnenkohl, *Vom Einzelschuss zur Feuerwalze. Der Wettlauf zwischen Technik und Taktik im Ersten Weltkrieg*, Koblenz 1990, p. 277 ; See also in summary: Stefan Kaufmann, *Kommunikationstechnik und Kriegführung 1815-1945. Stufen telemedialer Rüstung*, München 1996, pp. 250-252.

⁴⁰ See Kronprinz Rupprecht. *Mein Kriegstagebuch*, vol. 3, p. 20; *Der Angriff im Stellungskriege*, Berlin Januar 1918, (= Sammelheft der Vorschriften für den Stellungskrieg, 14); Groß, *Dogma*, p. 151. See also Lupfer, *Dynamics*, pp. 37-54.

⁴¹ See BHStA/KA, NL Kneußl, TB XIII, Entries of 4 and 27 March, 20 May 1917 und TB XIV, Entry of 3 July 1917. See *ibid*, 11. BID, Bd. 96 *Kriegserfahrungen 1915-1918*, 11. BID Nr. 1451/Ia *Betreff: Erfahrungen an der Aisne-Front*, 18 June 1917.

revised doctrine, which was to be applied flexibly and as appropriate for the situation. It is hardly surprising that the division command ambivalently combined both traditional and innovative approaches. For example, one defense plan the division developed in September 1917 contained a combination of old rigid and innovative mobile elements in the elastic defense that matched the terrain. The emphasis in the unit's combat training was to be on innovative team-like combined arms action, including the use of assault teams, and on the promotion of autonomous action among the subordinate commanders in a defense that had to be conducted offensively. Seeing that the division command perceived a decline in the quality of the (militia-type) troops, it tellingly never stopped maintaining the traditionally strict discipline by ordering them to undergo drill and conduct "dashing reviews" in front of their commanders.⁴²

These actions of the division command actually appeared quite normal in view of the fact that the German pre-war military regulations had already prescribed flexible action in battle. The increasing complexity of the tactical combat methods in industrialized warfare at the same time raised the level of insecurity felt by an ambitious commander who was vainly focused on the reputation of his division⁴³ and still looked back at the classical 19th-century image of war: "In war, everything used to be easy!" Kneußl noted tellingly in November 1917 on one of the OHL's many tactical orders.⁴⁴ Persistence on the one hand, but also always critical judgment and a willingness to accept necessary and appropriate innovations on the other alternated in a

⁴² Ibid, 11. BID, Bd. 40, Handakten Ia, 11. BID Nr. 1989/Ia Verteidigungsplan 1 September 1917. This is the general trend in many tactical post-mission reports of the division in 1917/18. See for instance ibid, Bd. 20, Akte Berichte zum 18.7. 1918, 11. BID Ia Nr. 2052 Betreff: Erfahrungen aus dem Gefecht des 18.7.18, 9 August 1918; ibid, Bd. 99, 11. BID Nr. 175/Ia Betreff: Besichtigungen im Kompagnie- und Bataillonsverband, Heranziehen der Art. u. techn. Formationen zu den Bataillonsbesichtigungen, 20 March 1917; ibid, 11. BID Nr. 2202/IA Betreff: Ausnuetzung der Ruhezeit, 21 September 1917.

⁴³ A very critical and not necessarily well-meaning attendant of his division commander was his military aide Reserve Lieutenant Robert von Griesenbeck who, being a reserve officer, had a very distanced view on German generals for their "mutual envy and vanity". See for instance TB XI, Entry of 13 November 1915, TB XXIII, Entries of 24 June and 7 July 1917 as well as TB XXV, Entry of 24 May 1918.

⁴⁴ BHStA/KA, 11. BID, Bd. 96, Kriegserfahrungen 1915-1918, 11. BID, comment division commander on Vorposten, Vorfeldzone, Vorfeld bezüglich Chef des Generalstabes des Feldheeres II. Nr. 71191, 24 November 1917. See also ibid, NL Kneußl, TB XVI, Entry of 4 April 1918. Prior to the division's first employment in the spring offensives of 1918 ("Georgette" in Flandres) Kneußl wrote: "How many questions in this extremely difficult conduct of combat operations have yet to be solved despite hundreds of provisions and directives issued! And all that may happen in the hubbub of such a gigantic battle".

form of carefully maneuvering leadership that came from constant pressure to succeed.⁴⁵

As a result, the division command took a middle course for its own work on the further development of tactics. This also included continuing to grant subordinate levels of command a certain freedom of action in accordance with the principles of mission command, even though this was especially hard to do when it came to pulling back front-line troops in an elastic area defense. In this regard, Kneußl, too, was skeptical about the so-called "militia army."⁴⁶ The division command found itself the patronization and strict supervision of the detested Prussian commands on the western front always annoying and very unpleasant.⁴⁷ At the same time, the division's own behavior towards subordinated levels left no doubt about its intent to maintain a tight control on things by all means of liaison and communication and by putting precise provisions in orders.⁴⁸ The form of leadership it displayed continuously reflected the conflict between unavoidable coordination from above and the freedom granted down the chain of command. In the event of failures, Kneußl, following Ludendorff's example, often took relentless measures against subordinate commanders and held them accountable. Officers had to fear losing their command, or to redeem themselves they were given the chance to restore their "honor" and "good reputation" in battle.⁴⁹

⁴⁵ Tellingly, already before the war, a qualification report on the then battalion commander Kneußl noted that from the very beginning Kneußl adopted a modern point of view in combat training without coming to "aberrations". BHStA/KA, Offizierpersonalakten 11711, Qualifikationsbericht, 1 January 1907.

⁴⁶ Accepting innovative approaches in advanced attack procedures generally seemed much easier than accepting them in the unloved defense. In this context, the scepticism of the division command but also of the lower echelons was first and foremost directed against rolling barrages which were considered to be to schematic. See BHStA/KA, 11. BID, Bd. 40 Handakten Ia , 11. BID Nr. 1863 Betreff: Zusammenwirken der Inf. und Artl. auf Grund der Erfahrungen beim letzten Einsatz der Division, 5 July 1918.

⁴⁷ See *ibid*, NL Kneußl, TB XIII und XIV, Entries of 19 and 22 May 1917. Alluding to the campaigns in the east Kneußl also noted: "It is just as well that we did not have these overcautious gentlemen commanding our mobile warfare: that would have been a mess." See also *ibid*, TB XV, Entry of 13 December 1917 and TB Griebenbeck XXV, Entries of 11, 12 and 15 June 1918.

⁴⁸ This tendency is reflected in all field orders. See for instance BHStA/KA, 11. BID, Bd. 8, KTB Beilagen 8 and 12 July 1918, 11. BID Ia Nr. 1893 Divisionsbefehl, 8 July 1918 and 11. BID Ia Nr. 1925 Betreff: Kampfzonen, 12 July 1918.

⁴⁹ See *ibid*, Bd. 62, Akte 1917, Vorgänge bei I. Bataillon 22. bayerisches Infanterieregiment und I. Bataillon 3. bayerisches Infanterieregiment am 29.10.1916 in Rumänien (battle reports of the battalions, reports of

As a result, the middle course the division command took to reveal a longer-lasting flexible willingness to learn in modernized combined arms combat contributed significantly to raising its troops' combat effectiveness. The condition and conduct of the division's own troops and above all of the enemy's troops as well as weather and terrain conditions remained a crucial factor influencing the division's combat effectiveness. By mounting a form of elastic glacis defense that was right for the muddy terrain outside Paschendaele in Flanders in late October 1917, the division kept its Canadian opponent - who had launched "bite and hold attacks" - in some sections at bay and stabilized its own front.⁵⁰

During the allied counteroffensive on the western part of the Marne salient in mid-July 1918, the allies rapidly broke through a similar form of elastic glacis defense of the division which had been ill-prepared. This attack near Soissons was surprisingly carried out without preparatory artillery fire, but tanks were used as the terrain favored maneuver. It hit German units that were undermanned and completely worn-out, the result being that they were overrun and some of them surrendered soon. Nevertheless, they managed to inflict heavy losses on the attackers and prevent a complete breakthrough by employing reserves.⁵¹ A month earlier, the division – as a so called

the regiment commanders and comment of the division commander). See also *ibid*, NL Kneußl, TB XIII, Entry of 18 May 1917. See TB Griesenbeck XII, Entry of 18 May 1917.

⁵⁰ There is no doubt that both sides presented their operations as success. See *Der Weltkrieg 1914-1918*, vol. 13, p. 90. On the tactical procedures see *ibid*, pp. 72-75. From a British viewpoint: Paul Harris and Sanders Marble, "The Step-by-Step Approach: British Military Thought and Operational Method on the Western Front, 1915-1917", *War in History* 15 (2008), pp. 1, 17-42. On the events of the battle on this day see: BHStA/KA, 11. BID, Bd. 8, KTB Entry of 26 October 1917. See war letter (Feldpostbrief) Robert von Griesenbeck 28 October 1917. BHStA/KA, 3. bayerisches Infanterieregiment Weltkrieg, Bd. 25, Akte Operationsakten, Bericht über den Grosskampf am 26.10.17 bei Passchendaele. See Robin Prior and Trevor Wilson, *Passchendaele – the Untold Story* (New Haven/London: Yale University Press, 1996), pp. 171-179. In the time between 20 and 31 October 1917 the losses of 11th BID amounted to 1,800 troops (assigned formations not included, including sick people). The attacking Canadian divisions lost some 3,400 troops on 26 October 1917.

⁵¹ The artillery in the field was still forward-deployed in an attack formation, until 18 July 1918 it was only incompletely echeloned in depth. See BHStA/KA, Handschriften 2645, report Major Baumann, 3 March 1920. See also *ibid*, Handschriften 2698, report Oberleutnant Wilhelm von Thoma "Der 18. Juli 1918", 1922; see *ibid*, NL Kneußl, TB XVII, Entry of 17 July 1918. After inspecting the front, the shocked division commander remarked that individual infantry companies of 11th BID did "not have more than 20 to 25 troops and 15 troops manning the machine guns on the battlefield." See *ibid*, Handschriften 2082, „Die 11. Bayer. Infanteriedivision vor Soissons 18.7.1918“, Manuscript by von Kneußl, 15 September 1922. See BArch, RH 61/2181, Manuscript by Ludwig von Menges on "Die Abwehrschlacht zwischen Aisne

Mob. Division (Attack-Division)⁵² - had been initially successful in an offensive in the same area due to its use of the enhanced attack tactics – making gains in ground and taking numerous prisoners. Both severe logistical problems and a lack of horses on the one hand and the rapid deployment of reserves by the French defenders prevented it from going over to maneuver warfare as it had intended⁵³.

Conclusion

The long-term middle course that the division command took on to handle its own tactical development generally gives no reason to either overrate the military and innovative competency of the German army nor to accuse it of being unable to learn. Rather, it reflected a cautious, sober and not least pragmatic approach to the complex challenges of the unusually long industrialized war. It is likely to have conformed to a German military establishment that was traditionally urged to act flexibly despite its rigid hierarchic structures. The division command was only willing to implement quick

und Marne (7. und 9. Armee), Der erste Schlachttag, 18. Juli 1918" published in part in Der Weltkrieg 1914-1918, Vol. 14. For a detailed description of the events of the battle see also Alfred Stenger, Schicksalswende. Von der Marne bis zur Vesle 1918, Berlin 1930 (=Schlachten des Weltkrieges, 35).

⁵² See Theodor Jochim, Die Vorbereitung des deutschen Heeres für die Große Schlacht in Frankreich, Heft 3, II. Grundsätze für die Einzelwaffen 1. Infanterie, Berlin 1928, Anlage 1. Due to their role as mobile attack divisions in an otherwise rigid order of battle the so-called mobilization divisions were to receive the rather limited personnel replacement and horses. Only the most necessary equipment was to be carried along, the number of machine guns and mine launchers was restricted and a so-called "commander's reserve" was kept. Compared to other divisions involved in the operation, the 11th BID was considered to be completely lethal but it was neither fully mobile according to the standards of a mobilization division nor staffed up to the authorized level. The army-wide shortage of horses had a major impact on the artillery. It could muster only 78 percent of the authorized number of horses. See BHStA/KA, 11. BID, Bd. 8, KTB Beilage 9 June 1918 "Zustand der 11. Bayer. I.D. mit Einsatz bei Laon (9.9.1918)".

⁵³ See TB Griebenbeck XXV, Entries of 9, 11 and 12 June 1918. See BHStA/KA, 11. BID, Bd. 40 Handakten Ia, 22. bayerisches Infanterieregiment Nr. 491 Gefechtsberichte vom 12. bis 15.6.1918, 22 June 1918 and *ibid* 3. bayerisches Infanterieregiment Gefechtsbericht über den Angriff des 3. bayer. Inf. Regts am 12.6.1918 (Hammerschlag), 21 June 1918. See *ibid*, Bd. 25, Akte Beilagen 13. bis 17.7.1918, Gefechtsbericht III. Bataillon 22. bayerisches Infanterieregiment, 18 June 1918. See *ibid*, Bd. 8, KTB Entry of 12 June 1918. See Der Weltkrieg 1914-1918, vol. 14, edited by Kriegsgeschichtliche Forschungsanstalt des Heeres, Berlin 1944, p. 384.

changes to a certain degree. For instance, it always paid attention to complying with traditional values and procedures that it believed had proven their worth.

The division command's actions were not so much based on avant-gardist thinking, but on the conviction that it was probable that only through compromise would they remain effective and successful in war. The pressure to succeed and the question of prestige had quite a significant influence on the way the division commander exercised command and control. The tactical middle course taken in modernized combined arms combat operations also helped to increase the combat effectiveness of the division on the western front, although in general it proved less successful there against a similarly industrialized opponent who had the same combat power than against the opponents on the eastern and Balkans fronts. Looking at it from a long-term perspective, the division was by no means a unique military elite unit either from the point of view of its capabilities or its personnel and materiel. Rather, it was a representative exponent of the qualified German mass army Ludendorff aspired to establish.