

On the Vistula and Wkra

A Study of the Polish-Russian War of 1920

Foreword

The fate of a huge battle was decided in the memorable month of August 1920 on the banks of the Vistula, the Bug and the Wieprz rivers, along a 350 km long front. If I have added the little-known Wkra to these great rivers, I do it only because, considering the events of our last war with Russia, I look at them from the position of the commander of the 5th Army, which made a decisive strike over the Wkra River. The battles of the 5th Army also form the essential core of this book; it does not, however, exhaust them in detail, because they are to be the subject of a more extensive historical work by General Józef Zajac.¹

However, to confine oneself to the history of one army, which lasted and fulfilled its task in less than twenty days, would be too one-sided and would not give a proper picture of our struggles of that time and of the unusual victory. Therefore, I develop them against a more general background. Namely, I discuss the last phase of our army's retreat from the Dvina River, treating at some length the Battle of Brześć² and the battles in the middle Bug River, not only because I led the Polesie group at that time, but above all because it was the first serious attempt to stop Tukhachevski's advance into Poland. I also devote a lot of space to the initial formation of the Polish front on the outskirts of Warsaw and Modlin, driven by the need to clarify our extremely fluid and confusing combat situation at the time.

Considering the operations of the 5th Army I cover the entire combat on the Vistula and at the same time I discuss the main moments of the Warsaw operation, connected with the battle on the Wkra River.

I prepare this account as a sort of diary; nevertheless, I avoid discussing people and only with reluctance express negative judgements, I try to remain strictly objective, at least to the extent available to a participant of great historical moments. At the same time, if I strike a critical note anywhere, I always do it in the name of constructive, not destructive goals. I believe that learning about one's own past mistakes is the best guarantee of avoiding them in the future. I deliberately limit the discussion of these mistakes to subjects directly connected with the mystery of the Polish victory of 1920, remembering that an army as young as the Polish one is especially sensitive to every word of criticism.

In preparing this book, I have accumulated a great deal of material, much of which I am putting aside for other publications if I have the strength and time. From the original, more extensive layout of the book, I have retained its broader framework because in the last section, while discussing the decisive moment, i.e., the victory over the Vistula, I have attempted to make an analysis of our struggle with the Red Army. This modest attempt does not exhaust this very serious subject. What is more important is that I would like it to be an incentive for further, serious and objective studies in this direction.

The historical part of the book is based on documents preserved in the archives of the General Staff, on my notes from the time of the war and on information collected by me directly from participants in the Battle of the Vistula, for which I thank them at this point.

I am also pleased to thank the Chief of the Military Historical Office, General Julian Stachewicz, and his associates who, by providing me with the aforementioned historical documents and by compiling the tables and lists annexed, made it easier for me to compile, clarify, and finish this work.

Lwow, January 22, 1928.

The second edition, replacing the tired first edition, generally conforms to the original text. Some details have been corrected and some phrasing reworked. Otherwise, wanting to remain objective, the role of the Volunteer Division in the final operations of 5th Army has been presented slightly differently. Finally, it seems equitable to present in a better light the difficulties faced by Colonel Dreszer's Combined Division, who mission greatly exceeded the forces he was given. That division is assured of a fine page in the history of the great Polish victory.

Warsaw, 6 April 1928.

¹ I am unaware of this book. It isn't in the Wikipedia list of his publications.

² There are a couple of towns with this name. In this book it always refers to Brześć nad Bugiem, Brześć on the Bug, more commonly known in English as Brest-Litovsk.



Translation Notes

This was translated from the French version of the second edition, checking it against the original Polish first edition. In cases where they differ, I have gone with the French, especially where it appears to correct errors.

However, I have gone with the original name, as "*La campagne Polono-Russe de 1920*" gives a completely false impression of the scope of the book.

I have left place names in the original Polish unless they have long-standing English versions (Warsaw, Moscow, the Vistula etc). Most of the campaign narrated in this book was fought in modern Poland (and nearly all in inter-war Poland) so finding places on a map is not massively hindered by that choice. The first time a name comes up from outside modern Poland, or where other common names exist, I have put the alternative version in brackets.

Sikorski was very inconsistent in his naming of the Soviet formations, in particular switching between "infantry" and "rifle" in the same sentence. I have tried to make all references to Soviet foot units be "rifle", as this is both correct and also helps distinguish the Soviet units from the Polish ones, regardless of what the original text has. Likewise, Budenny's force is always the Horse Army even when Sikorski called it the Cavalry Army.

The Poles organised their armies into "fronts", in the Russian style. Sikorski's text unfortunately is also very inconsistent in his naming of the various "fronts", with the exact same Polish positions being variously called the eastern, north-eastern and northern fronts. I have mostly left them in the original. If they are not capitalised then it should be taken as a geographical reference, rather than the formal name of the front. The Polish fronts were named, naturally, with respect to Warsaw.

The Soviets called Tukhachevski's armies driving on Warsaw the "Western Front", and the one further south with Budenny was the "South-western Front". This was, of course, relative to Moscow.

I have left out some of the original footnotes, when just a citation of some source or a reference. If you can read those, then you can read this work in the original.

The original Polish versions has maps with all the places names, roads and rail lines, but obviously in Polish, while the French version has extremely rough sketch maps, moreover, not always well scanned by me from the original. I have left the French maps in this text, to aid readers in following the rough outlines and to avoid making the files too big, but the Polish maps (also on pygmywars.com) are better if you want more accuracy or to find smaller places.



Description of the Theatre of War

Theatre of Operations east of the Neman and Bug Rivers

Every war brings with it more or less fundamental changes in the combat methods and in the technical means which the opponents use. What remains unchanged, however, is the influence of terrain on strategy and tactics, which both in the distant past and today, amidst revolutionary changes in the mechanism of modern warfare, has still retained its dominance.

In particular, during our last armed conflict with Russia, the topology of the terrain had a profound influence on the course and fate of operations; we will see this convincingly when we analyse their course, changes and final victorious outcome for Poland.

The Polish-Russian theatre of war breaks down into three operational areas, each with different conditions, and thereby leading to different results. They have in common a lack of features and a large extent, which, due to the relative weakness of the forces assigned to the defence of the country, could never be properly covered.

The natural border of the easternmost part of these areas is the Dvina and the Dnieper on the one hand, and the Neman [Niemana] and the Bug on the other, extending to one of the right-bank tributaries of the Dniester in eastern Małopolska and the Dniester to the Black Sea.

The strategic key to the Russian-Polish front and its permanent axis is formed by the marshy Polesie. This lowland country, cut west to east by the Pripyat River, is completely flat, rising to 120 m above sea level.

The differences in height here are insignificant, but there is extensive forest cover. In Polesie there are no major elevations; one third of the country is covered with tall forest, without counting the immense swamps covered with shrubs, dwarf pines and birches. Observation at long distances is impossible there. However, when the observation conditions improve – only in the more open marshy areas – another natural Polesie obstacle comes to the fore, that is the difficulty of movement due to the marshes and numerous rivers.

This marshland, 300 km wide, is the only part of the Polish-Russian border zone that is difficult to cross for all three main arms. Their movements, except in winter, must be limited here to the sandy dunes and damp sand hills. Manoeuvre is all the more limited because the Polesie is sparsely inhabited with only dirt roads, frequently flooded.

I wrote in my study on the Polesie:³

In this whole area, stretching over 400 km from Kobryń to Dnieper, there are only two railway tracks and some dirt roads and forest lanes in a very poor condition. From west to east we have only one road through the forest. As a result of these terrain features, the Polesie is completely unsuitable for offensive purposes and for large-scale warfare in general, but it presents a serious obstacle for both marching and stationing troops, as well as for movement in general, and has a decisive influence on the type and manner of battles fought there.

The enormous development of technology in modern warfare does not limit the strategic significance of the Polesie, as its wooded and marshy character is as much an obstacle for airplanes as for tanks.

Our northern, so-called Belarusian theatre of operations, stretching north of the Polesie and bordered by the Dvina River to the east and the Neman River to the west, is completely different. Situated in the Belarusian plateau, it has undulating and generally open terrain and relatively good observation conditions. It does not contain, apart from the upper Neman and Szczara [Shchara] Rivers and their swampy valleys, any major obstacles to movement.

In the northern theatre of operations, lie the shortest and most convenient routes for a Russian invasion of Poland, beginning in the regions of Mińsk, Orsha and Vitebsk, pressing from the centre of the Russian empire.

An offensive movement taken this way, finds relatively numerous and good roads here. It also cuts us off from the Baltic states and ports, restores a direct connection between Germany, Lithuania and Russia, making it easier for the Russians to supply its armies, and enables it to organise and exploit Lithuania against Poland. Moreover, Russian armies striking in the north, can if successful turn the entire Polish front and move the war, not for the first time in history, to the middle Vistula, that is, into the heart of the country, which removes the main centres of Polish defence.

The importance of this operational theatre has been underlined by history, with the well-known and historically engraved routes often taken in Polish-Russian wars in the north.

The operational areas of Wołyń, Podolia and Ukraine, on the other hand offer conditions very favourable for the manoeuvring of large cavalry masses, with a few exceptions: the northern tributaries of the Dniester which cross

³ General Sikorski: *Polesie jako węzeł strategiczny wschodniego frontu* (Bellona, 1924)



eastern Małopolska are susceptible to the organisation of a flexible front, but are difficult to cross in its lower reaches; the so-called Little Polesie located near Ostróg [Ostroh] and Sławuta [Slavuta]; and finally the nest of Krzemieniec hills. In Podolia and Ukraine, the deep ravines in the Transnistrian region, seemingly invisible due to their steep walls, formed by the breakthrough of the Dniester and its tributaries, are the only serious strategic obstacles.

The Podolian Uplands have a very simple geological structure, formed on the Ukrainian granite plate, 500 km wide and 900 km long, stretching deep into Russia and reaching as far as Donetsk, with a very simple topological structure. To the east of the Zbruch River it passes into the Black Sea steppe, to the south it descends gradually to the Dniester. The open, lightly crossed, slightly undulating and upland terrain of this area, the lack of major forests and large industrial sites, the poorly developed communications network, and the primitiveness of the local buildings and farms, all provide cavalry with great freedom of movement. In addition, the country's agricultural character presents abundant reserves of foodstuffs for men and horses, making cavalry masses largely independent of formal supply. These characteristic features intensify as one moves eastwards. On the vast steppes of southern Russia and central Asia we find nomadic peoples, living in a primitive state, which can help the cavalry with their immense herds of the extremely strong horses breed.

Hence Poland must realise that its southern theatre of operations contains the natural route of the great cavalry expeditions, which for centuries have struck at it from the depths of the near and distant East. Should we overlook the fact that the regular Soviet army now numbers 96 modern cavalry regiments on a peacetime basis, history will remind us of this danger.

The Tatar routes (Black, Gold and Kuchman) with numerous barrows scattered in Podolia and equally numerous "mogily" (hills which in the Middle Ages the Tatar hordes used to signal from) should always be a meaningful warning for us in this direction.

After all, Batu-Khan, the commander-in-chief of a multilingual mounted army, unprecedented for those times with "half a million" men, after capturing Kiev in 1241 marched on Lutsk, Lublin, Sandomierz, Cracow and Lignica. It was the first historical indication of Polish destiny in those parts, and a great model for Budenny's Horse Army.

The importance of Poland's eastern territories, and particularly the Polesie, was similarly assessed by our strategists of the epoch of 1830. Ludwik Mierosławski, examining Poland's war geography, detailed three different theatres of war in the east, based in the north on the Dvina River, in the south on the Dnieper and finally on the Polesie marshes. Seeking to concentrate the Polish army on the Dnieper and the Dvina, he divides the Dnieper into three parts: north to the Pinsk marshes, south and central – linking the two theatres of war and corresponding to the Polesie marshes. Similarly, in his words, "the Dvina hides Kurland and Lithuania from Russia, and the ridge from Orsha to Vitebsk is the geographical key of the eastern provinces. It is a strategic outpost for Poland and the position of its vanguard in the face of Moscow. ... The next parallel defensive zone of Poland is the curve of the Neman and Bug rivers, extended freely by the line of the eastern Bug and Dniester. ... The Neman divides Lithuania from the Kingdom and Red Ruthenia, and the Bug divides Ukraine from Podolia. This three-link chain, reaching from Königsberg [Kaliningrad] to Sevastopol, forms the western boundary of the belt of which the Dvina and the Dnieper are the eastern route. ... The Pripyat valley, perpendicular to the Dnieper, and its 50-mile-long marshes separate Lithuania from the Ruthenian lands and form two chessboards, equal almost in volume but different importance."⁴

Further on Mierosławski writes: "It is obvious that the great barriers, such as the Pripyat floodplain and its tributaries from Pinsk to Mozyr, the lakes on the Dvina, the flooded valleys of the Szczara, the immense forests, the isthmuses, and straits between the marshes, and all that disrupts the road network of Lithuania, only hinder the movements of the regular troops, while on the contrary serving the tactics and movements of insurgents.

The views expressed so vividly by the talented military dilettante Mierosławski were adhered to – quite independently, in fact – by the unquestionably excellent military theoretician General Prądzyński. He devoted an extensive and interesting chapter of his Memoirs to the eastern theatre of the war. He wrote:

There have always been two completely separate theatres of these wars between the Poles and Moscow; necessitated by the vastness of the frontier and the nature of the country, clearly divided by the whole Pripyat River system, with the rivers flowing into it and the marshes of Polesie. This line and the few crossings of it deserve the greatest attention in any Polish war, especially as allows those in possession of it to move the mass of their forces successively from one theatre of operations to another and to operate with one force on enemy separated and unable to link. The second is still more

⁴ General Sikorski: *Polesie jako węzeł strategiczny wschodniego frontu*.



important strategically, it allows the weaker, if in resilient possession of it, to occupy flank positions and thus impede the further advance of the stronger enemy.

The two theatres of operations normally require two armies separated and acting independently, but in their actions, one should take regard of the other, sometimes even be helpful to one another. And so, it was in former times. The southern theatre usually belonged to the Crown Hetman, the northern the Lithuanian Hetman.

...

If it is fair to criticise the actions of such a great leader as Napoleon, then one can reproach him for neglecting that southern theatre in his 1812 expedition. Schwarzenberg's army was too weak, and its leader not sure enough. When Napoleon reached Smolensk with his main forces, Kiev should have already been taken by his principal lieutenant, and the whole country up to the lower Dnieper cleared of the enemy.

The Theatre of Operations between the Neman-Bug and the Vistula

The western border of the described operational areas is formed by the rivers Neman and Bug, which at the same time form the last Polish natural defensive line to the east.

This line, strengthened by the strongholds of Grodno and Brześć, is guarded in the south by Lwów [L'viv], which juts into the Podolian plateau in the shape of a defensive bastion, and in the north by its counterpart Wilno [Vilnius], which fulfils the historical role of a Polish outpost east of the Neman.

The Neman, as the strategic axis of the transitional areas lying on its banks, plays an analogous role in the east of the Republic as the Vistula does in the interior of the country. In its upper reaches it flows through numerous forested marshes which are difficult to cross, and then enters hilly country, where it cuts deeply into the terrain (from 20 to 30 m) and has steep and dense banks until Kowno [Kaunas], from where it takes on the characteristics of a lowland river.

Approximately 200 m wide, in its middle course it forms a serious barrier, cutting across the direction of the Russian attack, which starts at the gates of Smolensk, Orsha and Vitebsk.

From the Neman through the Białowieża Forest, which covers 1,500 square kilometres and is therefore a formidable obstacle to the movement of larger armies, we reach the middle Bug, which protects the interior of Poland. The Bug, which flows north to Drohiczyn, then makes a semi-circle, gradually turning west, and after taking on the right-bank tributary of the Nurzec, flows in a clearly western direction.

It glides lazily through a large swampy valley, which is only passable in places where there are bridges across the river. Thus, the Bug is a serious natural obstacle to movement.

The middle Neman and some of the middle Bug are bordered to the east by a region of large valleys which, together with the basin of the Bug and the Polesie, forms a transition from the German plain to the Russian plain, that is to say, the lands of the Eastern Slavs.

This a flat land and very little crossed. It is bordered on the south by the gently undulating Lublin plateau, situated between the upper Bug River and the Vistula River section from Zawichost to Dęblin. The Lublin plateau has an average height of 200 m above sea level and in its southern part has a hilly character and rich relief. Its counterpart on the western bank of the Vistula is the Małopolska plateau with its wooded hills around Kielce, of which the highest peak, Łysa Góra, rises to 611 m. To the north, the "land of valleys" joins the woody plateau called the Prussian Lake District, whose humps – running along the Polish-German border – reach a height of 313 m.

The land has, as Professor Romer states, the character of a wide concave corridor, sloping from west to east. Polesie and the area on the Neman River, situated on its eastern edge, are linked by a transitional belt with Podlasie, which in turn passes into Mazovia, situated on both banks of the Vistula, and connecting with the Kuyavia lake district and the Wielkopolska lowlands.

From the standpoint of strategy and tactics, we can distinguish in this part of Poland: the Podlasie, Mazovia and Lublin operational theatre.

The Podlasie theatre of operations, which is generally identical to Podlasie in the geographical sense of the word, stretches from a line passing through Dęblin and Chełm in the south to the marshes located by the Augustów Canal and the Augustów Forest, and further north to the Polish-German border. It is bordered on the east by the Bug and Neman rivers, on the west by the Orzyc and Narew rivers, and further on by a line, not clearly delineated in the terrain, running more or less through Brok, Kałuszyn, Żelechów and Dęblin.



The latter line forms at the same time the western border of the Mazovian operational area, which is divided into a central and a northern part. The central part, based on the Małopolska Upland in the south and spreading on both banks of the Vistula, reaches to the Bug-Narew and the Vistula in the north.

The northern part of the operational area of Mazovia reaches the Polish-German border and the Drwęca River in the north and west, and the Vistula and Bug-Narew in the south.

Podlasie is a very lightly undulating plain, elevated about 150 m above sea level, gently sloping down to the Bug and Narew rivers. In the area of Włodawa and Zabuzże it dips and is covered with marshy prairies which reach up to the Wieprz and along the Tyśmienica. It is the only obstacle to movement.

The central part of Mazovia is a monotonous sandy plain, while on the contrary its southern part is predominantly plateau. The central part of Mazovia's operational areas contains the natural eastern bridgehead of Warsaw. The operational theatre of northern Mazovia, on the other hand, is suitable for a manoeuvre involving the encirclement of Warsaw from the north, or a manoeuvre directed against its connections with Gdansk and Gdynia.

The sandy Podlasie region, together with most of Mazovia, used to be a land of wilderness, with impenetrable pine forests. Today only remnants remain in the form of well-managed mature forest. The ancient forest strongholds, the so-called Slavic "Zasieki" and "Stróże", are now a thing of the past. Even the old Kurpiow Forest, with Myszyniec at its centre, is so depleted that only its marshy terrain provides any obstacle to movement.

Central Mazovia and some of Podlasie is the poorest part of Poland, preserving a primitive agricultural culture with a predominance of rye and potatoes, and in the southern part with a predominance of oats. With the exception of the fertile Bug River valley, the soil is generally infertile and not conducive to lush vegetation. Its waterlogged sandy soil and sporadic peat bogs present difficulties for walking. The country is characterised by a homogeneous landscape devoid of any contrasts, with vast fields of cereals, quite numerous typical Slavic villages and good meadows on the Bug River. In general, it does not restrict the freedom of movement of troops, providing them with sufficient accommodation and food, in spite of the poverty of their land, thanks to the relatively large number of cattle.

Strategic value of the Vistula and its Right-bank Tributaries

The watersheds located in the discussed areas are very shallow. Between the Pripjat and Bug River basins none reach over 150 m above sea level. Similarly, the watershed between the Pripjat and Neman is so low that the difference in height between the two rivers is less than 20 m. The watersheds of the basins of the Neman and Vistula rivers have similar properties.

In spite of this, the river system of the strong right-bank tributaries of the Vistula, has many characteristic and noteworthy features. Among these rivers the Wieprz, Bug and Narew stand out.

In the northern part of the area under discussion, we can see smaller rivers, collected successively by the Narew and the Bug, namely the Pisa, the Omulew, the Orzyc, and the Wrę. These are weak and yet so often mentioned in relating the last Polish-Russian war.

All these rivers are lowland rivers, so they have a uniform and even gradient and flat and marshy banks with characteristic wet meadows. Neglected and become wild in the period of the collapse of the Polish state, they rise quickly during heavy rainfall, often overflow their banks, flood and muddy their own valleys, frequently change their flow and path, and are therefore quite variable and often difficult to cross.

The Vistula has similar characteristics; it unifies the whole interior of Poland from a strategic point of view.

The Vistula enters the land of large valleys near Dęblin. From Zawichost to Puławy, flowing through the Kielce and Lublin hills, it has relatively high and compact banks. From Dęblin onwards, it flows through a wide valley with low banks which allow it to flow smoothly. Its width varies: up to 1,000 m wide near Warsaw, narrowing from 400 to 1,000 m in the Płock-Nieszawa area, and in its lower reaches – where it is regulated – reaching up to 700 m wide. The bottom of the Vistula is sandy, and variable in the middle and lower parts of its course, due to the lack of management. Its path is changeable, winding and irregular, it has numerous eddies, its depth is uneven (the average near Warsaw is up to 1.5 m). The fall of the Vistula is extraordinarily slight, amounting to 20 cm between Zawichost and Warsaw, 34 cm between Warsaw and Modlin, 18 cm between Modlin and Tczew, and 10 cm between Tczew and Gdansk.⁵ On the other hand, the Vistula has plenty of water, its flow near Modlin is 192 m³ at the lowest water level. There are no fords of the Vistula; it can be crossed only by bridges or ferries.

The width of the Vistula's valley is considerable; it reaches up to 12 km wide at Warsaw and falls to 3 km north of meeting the Bug. At Warsaw the left [western] bank is higher than the right, reaching up to 25 m above the water level. After merging with the Bug, however, the right [eastern] bank is clearly higher.

⁵ I think these slopes given are the amount of drop per km. The lower reaches of the Vistula have less than 0.1% gradient.



Between Zawichost and Modlin the river heads north and is the western side of the Lublin operational theatre, which contains the Wieprz theatre. The Dęblin Fortress, situated at the confluence of the Wieprz and the Vistula, although built by the Russians with the west in mind, impedes a Russian attack coming from the Hrubieszów-Zamość region. It also guards the Polish capital from the south, in case the enemy in possession of Brześć, wants to attempt to force the Vistula in this area.

North of Dęblin, the Vistula enters the Mazovian theatre of operations, taking in the abundant waters of the Bug and Narew near Modlin. It turns westward here, to demarcate the northern part of the Mazovian theatre of operations in a great arc, drawn as far as Bydgoszcz-Fordon. In this area there are three bridges over the Vistula: one near Wyszogród, one near Płock and one near Włocławek. In this area, as we have indicated above, the Vistula valley narrows, its banks become more compact, and the towering right bank makes it easier to control the river from the east. All these features tempt anyone intending to force the Vistula from this side to follow Paskevich's route in 1830.

The Vistula is north-south strategic axis of Poland, while the Pripyat, the Krolewski Canal, the Muchaviec [Mukhavets] and the Bug, form the east-west axis of our eastern operational areas. The valleys of the main rivers of Podlasie also point in the direction of Warsaw in their lower reaches. The rich network of artificial and dirt roads in this part of Poland, and the favourable – if we are talking about coming from the east – railway network, also make it easier for the enemy to attack the capital of Poland.

Nature of the Terrain in the Warsaw Theatre

The operational area, bordered by the Neman and Bug rivers to the east and the Vistula to the west, holds the *glacis* of the northern and eastern bridgehead of Warsaw, which can be drawn by a line running through Modlin, Dębe, Zegrze, Radzymin, Okuniew, and Karczew.

There are two main routes into this glacis – from the north-east and from the east. The first, and as already stated the more important one, lies in the area delimited by the Biebrza River and the Augustów Canal to the north, to the east by the Neman River up to Wołkowysk [Vawkavysk], to the south and west by the Wołkowysk-Warsaw railway line up to the Narew River and then by the Narew itself.

This path, dry throughout, is devoid of natural obstructions other than the Białystok forests. It contains a number of main roads leading to Poland from the north. The centre is Grodno, whereas Brześć is the centre of the eastern route to Warsaw.

This route is flanked by the Lublin operational theatre, which is a natural concentration area for armies preparing for a flank attack on troops assaulting the eastern bridgehead in Warsaw.

This is because the plateau, sheltered to the north by the Wieprz River, has numerous roads leading north from it – through Włodawa to Brześć, through Parczew to Biała Podlaska and Międzyrzec Podlaski, through Łysoboki to Łuków and Siedlce, through Dęblin to Siedlce and to Mińsk Mazowiecki.

Warsaw is located in the centre of Mazovia. At the beginning of the 15th Century, it was still a fishing village, founded on the highest point of the Mazovian plains, only 110 metres above sea level. Today it is a city of a million inhabitants, pulsating with life and developing at a dizzying speed – at the expense of the former capitals of the provinces. Warsaw owes its development to its unusually favourable commercial location. The intersection of waterways and the landscape around Warsaw increases its natural strategic importance.

The area just outside Warsaw is quite open. Driving from Warsaw to Radzymin one sees successive strips of marshy meadows and bands of sandy rises. These dunes extend to the horizon, giving the Mazovian landscape a look of its very own.

The rises enable observation in front of the lines and so facilitate the defence of the eastern bridgehead of Warsaw with artillery fire, all the more so because the marshes surrounding them slow down the enemy's march, and the roads are clear and visible well into the distance against the background of general greenery. This is the only strategic obstacle in the area. It was at this obstacle that the victorious Russian attack was stopped in 1920, after they had occupied Radzymin. In addition, the terrain here does not restrict manoeuvring, but at the same time does not give any serious cover nor facilitate tactical surprise.

Therefore, a determined and mobile defender of the eastern bridgehead of Warsaw, basing his left wing on Zegrze, whose location is as favourable as that of Modlin, and supporting himself on the Vistula with his right wing, can hold off a stronger opponent. In this uniform and largely open terrain there exists a kind of balance of mutual opportunity, however the terrain of Warsaw's eastern bridgehead ultimately favours the defender over the attacker.

Moreover in 1920 we had an outstanding advantage in technical means and a clear advantage in artillery, which enabled us to use the terrain conditions discussed above more ably than the enemy.

