Poland's Resources—Preliminary Reports

Prepared by Polish Commercial and Industrial Bureau, of the Polish National Department

FREE POLAND

DEVOTED TO THE PRESENTATION OF THE CAUSE OF A UNITED AND INDEPENDENT POLAND TO THE AMERICAN PEOPLE

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To American Business Men

The Republic of Poland has taken her place among the nations of the earth. Through President Wilson the United States has extended recognition, and the governments of England, France, Italy and Switzerland have done likewise. Certain of the frontier boundaries yet remain to be established, but it is already convenanted that Poland will be awarded the port of Dantzig on the Baltic and will enter again upon its maritime estate. The Poland already outlined will cover some 200,000 square miles and will contain within its boundaries a population of some 35,000,000 people. It will be the fifth nation on continental Europe in population.

Although a section of that country equal to the combined areas of New York, Pennsylvania, Illinois and Maine has been devasted by three battle armies and drained by two occupation armies the country is rich in possibilities. It has great stores of coal, oil, lead, zinc, salt; it has great textile developments at Lodz and it has enormous agricultural lands. Poland is a land of opportunity. Already English railway and mining commissions and French economic missions are in the country and it is hoped that an American mission will shortly sail. But what is needed not only for the sake of Poland but for the advancement of American trade is the presence of American business men. They will find the country ready to receive them with a government growing in stability, and peopled by those who from the first have looked to America with the deepest affection. In the following pages an attempt has been made to set forth for American consideration certain reports on the resources of the country as a whole.

These reports have been prepared by the Commercial and Industrial Bureau of the Polish National Department, Room 1032 Aeolean Building, New York City.

The Mineral Resources of Poland

Polish coal, oil and iron sources, easily worked and available for transportation

POLAND'S natural wealth is found on the northern slopes of the Carpathian mountains and principally on the western corner near the sources of the Vistula, Nida and Varta. At the time of the partition of Poland the value of the mineral resources was not appreciated by the partitioning powers, they considered only the actual soil area. As a result the great coal territory was divided between Prussia, Austria, and Russia, the two first named powers securing the greater portion while Russia received the smallest.

The coal and oil deposits rank first in value. The center of the Polish coal fields is under the small town of Myslowice called Three Empires Point, because here before the war the frontiers of the three empires met. It is estimated they contain 94.33 milliard metric tons. The oil wells of Galicia are regarded as the most valuable in Europe and although many improvements are possible, the quality of the oil is such that it has a high market value.

Coal—The coal-fields occupy an area of 2,048 sq. miles and are situated in Dombrowa, Cracow and the Silesian basin. The deposits of coal in this area are estimated at 94.33 milliard metric tons, out of which 61 per cent (57.82 milliard metric tons) in Upper Silesia, 34 per cent (32.17 milliard metric tons) in Galicia and Austrian Silesia, 5 per cent (4.34 milliard metric tons) in former Russian Poland.

This coal is of good quality, produces little ash, but only the coal of Upper and Austria Silesia can be transformed into coke. The beds are of considerable thickness and are generally found not far from the surface.

The total production of coal in the different basins amounted in 1911 to 52,168,800 metric tons, i. e.:

Upper Silesia (1913)..	43,801,100 metr. tons
Dombrova (Congress Poland)	6,467,700 metr. tons
Cracow (Galicia)	1,900,000 metr. tons
	52,168,800 metr. tons

It was in Silesia the exploitation of coal first started, and in 1800 the production of coal in this province already amounted to 106,000 metr. tons. In 1910, 56 mines were working with 120,000 workmen, the principal centre being Zazrze-Myslowice. The annual production of the Dombrowa, Cracow and Silesian coal fields, represents only 0.055 per cent of the estimated total deposits of coal. It exceeds the annual production of France, which was estimated in 1910 at 41,000,000 metric tons, and represents one-third of the production of coal in Germany without Upper Silesia.

Oil—The Galician oil wells are situated at the foot of the Carpathians, the easternmost being those of Sloboda, Rungurska, and Kosmacz, bordering on the Bukovina while the most westerly are those of Klenczany in the neighborhood of Novy Soncz (New Sandetz). Between those two extreme points lying over 240 miles apart, are situated numerous oilfields.

By 1912 the production of crude oil in Galicia had increased to such an extent that the output of burning oil and its by-products not only sufficed to cover the demand of the entire Austro-Hungarian Monarchy, but even left a very large surplus, for which a market had to be found.

In the year of 1912, which was representative of the normal average, the output of crude oil amounted to 1,168,371 tons. The Galician oil contains about 50 per cent of illuminating oil, benzine 10 per cent, paraffin 6 per cent and nearly 25 per cent of lubricating oil and oil employed for the distillation of lighting gas.

To hold the accumulating crude oil, suitable reservoirs were built. Before the war oil was exported from Galicia to almost every European country, Germany being the best customer (195,000 metric tons out of a total of 331,325 metric tons exported).

Of the total amount of benzine exported, Germany also took more than half, the rest being bought by France, Switzerland, Italy and Denmark.

The paraffin found a ready sale abroad.

The Galician oil industry is sufficient to supply the needs of a population numbering a hundred millions, so that a fourth or fifth part of the output will suffice to cover the requirements of Poland.

Since the year 1916 foreign capitalists have taken a lively interest in the Galician oil industry. Special British companies were formed for the purpose of acquiring already existing or potential oil fields in Galicia and exploiting them.

The Galician oil industry employes 20,000 hands, the wells before the war numbered 1,825, of which 269 were in process of drilling, whilst 1,556 were producing crude oil. The production of crude oil has given birth to the oil-refining industry. The first oil refinery was constructed at Maszowiec in Galicia. Other oil distilleries came into being in various parts of Galicia.

The insufficient protection from which the Galician oil industry at first suffered was responsible for the fact that a large proportion of the establishments enlarged in manufacture of burning oil and other oil products came into being outside the boundaries of Galicia (Hungary, Bohemia, Moravia). The results are that only 40 per cent of Galician crude oil is treated in the local refineries.

Ozokerite—In addition to petroleum there is also found in Galicia ozokerite or "mineral wax," a product akin to oil (a thing unique in Europe). In 1910, 2,170 metr. tons were obtained to the value of $615,000. The number of workmen employed in the seven mines now working is 1,313.

Salt—Rock-salt is found in the district of the northern slopes of the Carpathians and to the northwest in the northern basin of Prussian Poland. There are two government mines of Wieliczka and Bochnia near Cracow, and also nine salt mines in the eastern part of Galicia. Wieliczka is one of the greatest salt mines in the world.

In 1907 the mine of Wieliczka produced 110,260 tons of salt, i. e. 60 per cent of the total output of Galicia. In 1911 the total output of Galician salt mines was 141,215 tons of the value of $3,800,000.

Outside Galicia salt is obtained in the suburbs of Inowroclaw (Hohensalza) in Posnania and in the neighborhood districts of the former Russian Poland. In 1906 the output at Inowroclaw amounted to 56,713 tons of rock-salt and 25,556 metric tons of refined salt. The salt refineries of Ciechocinek in the former Russian Poland are not rich, in 1909 their output amounted to 3,007 metric tons.

SALT PRODUCTION

Galicia	141,215 metr. tons
Posnania	81,269 metr. tons
Former Russian Poland..	3,007 metr. tons
Total	225,491 metr. tons

Potassium Salt—Galicia also possesses at Kalusz mines of potassium salt which are the only ones known in the world, with the exception of those at Stassfurt in Germany. The composition of Kalusz salt is kainite and sylvine. The thickness of the beds of kainite is 12 metres and they contain 55-60 per cent of kainite; the beds of sylvine are less thick. In 1910 the production of potassium salt amounted to 15,000 metric tons.

Iron Ore—A brown ore is found in Upper Silesia, but it is not very rich in iron (about 35 per cent). The output in 1910 was 233,800 metric tons, and the number of men employed 1,477. Silesia imports an immense quantity of iron from Sweden, Hungary, Russia and Spain.

Galicia possesses four varieties of iron ore, consisting of 21-25 per cent of iron. The total output of iron in three provinces of Poland amounted to 510,600 tons made up as follows:

Upper Silesia (1910)	233,800 metr. tons
Former Russian Poland (1911)	258,000 metr. tons
Galicia (1913)	18,800 metr. tons
Total	510,600 metr. tons

Zinc Ore and Lead—In Congress Poland zinc is found in the neighborhood of Olkusz. There are also considerable quantities in Upper Silesia and in the southwest of Galicia. These ores contain some 48 per cent of pure zinc. In 1910 the total amount of zinc ore extracted was 591,100 metric tons. There were three establishments of zinc mining in Galicia. The annual average output amounted to 2,606 metric tons of a value of $22,000. In 1910 there were three zinc mines

in former Russian Poland with 1,543 workmen and an output of the value of $255,000.

Lead—Lead is found in Silesia, in Congress Poland and in Galicia. The output in Silesia in 1909 amounted to 58,568 metric tons, and in Galicia in 1910 to 5,859 metric tons of the value of 159,000. **Copper Ores**—Copper ores are found in former Russian Poland, in the mountains of Kielce and in Spiz. **Sulphur**—In Czarkowy on the Nida in former Russian Poland, and in 1901 the output of ore amounted to 18,200 metric tons. **Phosphorities**—Phosphorites are found in several parts of Poland. Their output reaches 20,000-25,000 metric tons annually; they are transformed into superphosphates.

Building Material—Poland also possesses excellent building materials, such as stone, chalk and marble. Brick, clay and kaolin are also abundant.

SUMMARY

of the Mineral Productions of Poland

In Metric Tons

	Former Russian Poland	Galicia	Upper Silesia	Total
Coal	6,467,700 (1912)	1,900,000 (1912)	43,801,100 (1913)	52,168,800
Petroleum		1,168,371 (1912)		1,168,371
Ozokerite		2,170 (1910)		2,170
Salt	3,007 (1909)	141,215 (1910)	81,269 (1906)	225,491
Potassium Salt.		15,000 (1910)		15,000
Iron Ore	258,000 (1911)	18,800 (1913)	233,800 (1910)	510,600
Zinc	105,000 (1910)	2,600 (1910)	591,100 (1910)	698,700
Lead		5,859 (1910)	58,568 (1910)	64,427

Textile Developments in Poland

A great industry which with an easier entry for raw cotton will develop marvellously

THE Polish Textile industry is mainly concentrated in three governmental districts in the west of the Kingdom those of Piotrkow, Warsaw and Kalish. Unfortunately in attempting to present a survey of this field of industry we are faced with the situation once again that the governmental statistics have been either deliberately falsified or else so slovenly kept that actual facts are not available. The Year Book of the Kingdom of Poland sets forth that there were in 1910, 422 textile establishments employing 93,565 workmen in the governmental district of Piotrkow, 110 establishments with 17,145 workers and a production of 30,201,600 roubles in Warsaw, and 62 establishments with 5,480 workers and a production of 8,360,900 roubles in Kalish, but when in 1907 the manufacturers made a survey it was found in the Lodz alone 127,000 workmen were employed in textile activities.

The textile industry has attained its maximum development in the towns of Lodz, Pabianice, Zgiers, Sosnowice, Zyrardow, Czenstachowa, Kalish, Tomaszow, Gzorkow, Konstantynow, Zdunska-Wola, Piotrkow. Lodz—the Polish Manchester—must be regarded as the centre of this industry.

The textile workers have been settled in the Lodz district since the XV century. It was this fact which decided a Saxon manufacturer, Louis Geyer, to found the first textile factory in this district (in 1822). Lodz possessed at that time 2,000 inhabitants. At the beginning of the great war, that is to say 92 years later, the number was 550,000. The city owed this phenomenal and truly American growth solely to the cotton and wool industry in all the phases of fabrication, beginning with spinning and ending with the process of putting the finish on the fabrics.

The textile factories of Warsaw on the other hand, are concerned only with specialty fabrications, such as the manufacture of curtains, laces, carpets, ribbons, cords, etc.

The wool-spinning mills are to be found mostly at Sosnowice; the linen and flax industry at Zyrardow, the great dressing works at Tomaszow on the Polica; the seat of the embroidery industry is Kalisz.

The industrial activity in the Kingdom of Poland dates from the beginning of the

19th century, and although industry in Congress Poland was hampered by the high prices which had to be paid for raw materials, due to the unfavorable tariff and railway policy of the Russian Government, its development was steady.

From 1896 to 1910 the number of workmen had nearly doubled whilst the value of production had trebled; due to technical improvements, the employment of American textile machinery and centralization.

The principal centres of industry in Congress Poland are:

1. Lodz (about 500,000 inhabitants), textile industries; and the neighboring towns of:

Pabjanice (45,000 inhabitants), woolens, lines, yarns.

Zdunska Wola (32,000 inhabitants), linen, distilleries.

Tomoszow (30,000 inhabitans), woolen and cotton factories, artificial silk.

Zgierz (20,000 inhabitants), textiles.

2. Warsaw (about 1,000,000 inhabitants), metal, textiles (particularly curtains, lace, embroidery, carpets, ready-made clothing, boots and shoes, gloves, hats, artificial flowers, fancy goods, breweries, furniture, cutlery, india rubber, glass and looking-glass, musical and surgical instruments).

Zyrardow, linen; Marki, woolens.

3. Sosnowice (97,000 inhabitants), iron, zinc, cotton, worsted yarn, flour mills, ceramics, gas-pipes, boilers, etc.

4. Czenstochowa (82,000 inhabitants), carpets, jute, linen, worsted yarn, china, cement, iron, church furniture, paper mills, dyeing works, printing works, colored paper, buttons, etc.

5. Lublin (74,000 inhabitants), cement, starch, sugar, agricultural machinery, etc.

6. Kalisz (67,000 inhabitants), laces, embroideries, woolens, cloth, etc.

7. Benczin (53,000 inhabitants), cement, breweries, etc.

8. Piotrkow (45,000 inhabitants), cotton mills, etc.

9. Wloclawck (37,000 inhabitants), china, iron, hardware, steel, wire, starch works, corn mills, cellulose, etc.

Curtains, Laces and Embroidery

Sixty per cent of Russian production in curtains and 65 per cent in laces were manufactured in Poland. Curtains were fabricated in Central Russia in two factories: The Petrograd Curtains Works, Ltd., at Petrograd, and "William Fletcher & Son" from Nottingham, at Moscow. Other three factories: "Szlenker, Wydzga & Weiher" at Warsaw; then "Warsaw Curtains Works, Gettlich, Geyer Brothers, Ltd.," and the "Dresdener Spotzen & Gardinen Manufactory" at Warsaw, worked in Poland (Warsaw). This last firm was a branch of the largest German curtain and laces company of the same name at Dresden and was only opened as a pretext for introducing German merchandise to the Polish and Russian market. At the same time the factory disorganized the quiet work in the Polish factories by incessantly reopening the wages question, arranging strikes, etc. It is for this reason that the German occupation authorities try to develop most intensively in all directions the action of that Dresdener factory at Warsaw so that they may paralyze with the aid of this so-called Polish firm, the Allies' economic plans, directed against Berlin.

The fabrication of cotton and silk laces, such as those made at Calais and Nottingham, and for this reason called English laces or Valenciennes, was concentrated in two large factories ("Moskowskaja Krushewnaja" at Moscow and "Gustaw Geyer" at Lodz, and the above mentioned "Dresdener Spitzen & Gardimenmanufactur Actiongesellschaft" in Dresden, Ltd.). In order to defend the home interests of this industry against the plots of the Dresdener factory, the two other Polish and Russian firms "Gustaw Geyer" at Lodz and the "Moskowskaja Krushewnaja" combined in 1913 in a company with a capital stock of 4,000,000 roubles.

These two industries of curtains and laces imported their whole requirement of machines and utensils from Nottingham and 65 per cent of fabrication yarns (i. e. the number above 80 Engl.) from Manchester or Nottingham.

As contrasted with the Polish lace production, which was represented in the whole Russian Empire only by the above mentioned three large factories, the production of embroidery was represented by an enormous number of small works, which almost without exception were in possession of Pol-

ish Jews. The value of the Polish embroidery has been estimated at £2,500,000, but this figure is only approximate.

Besides the annual production in the other branches of Polish industries was approximately as follows: in carpets, £60,000; cloth for furniture, £70,000; ribbons, £60,000; knitted goods, £1,000,000; braids and cords, £200,000; galoons and other trimmings, £30,000; etc.

Prices and Sale

On account of the conditions of production in Poland the cost of the completed article in the textile industry amounted to about 15 per cent higher than in Germany. The causes were: the Russian import duty on American cotton (4 roubles per pood i. e. 3d per English pound raw-cotton). In the years 1905-1910, when the price franco Bremen was 7.29—11.50 roubles per pound, the duty amounted to an valorem tax of 34-60 per cent. The aim of this tax was not only to protect the cultivation of the Russian cotton but principally to render more difficult the competition of the Polish manufacturers' articles with the Moscowite articles. For this reason cotton was carried from the plantations in Caucausus, Turkestan, etc. to the Central Russian factories at the ordinary rate, but when it was directed to the Polish factories and was transported by such Polish railway lines as Warsaw-Vienna, the Lodz railway or the Vistula railway it was obliged to pay the exceptional rate, which was almost 100 per cent higher than the normal rate.

Foreign cotton which only came in on these railways had also to pay the higher rate, but as the tariff did not apply in Russia itself, the result was that Moscow obtained foreign cotton at much more favorable rates than Lodz.

It will be sufficient to quote one example: for 38,574,900 quintals of coal from the Dombrowa Bassin (Poland) to Polish factories at Warsaw and Lodz, 1,121,153 more roubles were paid for the transport than if the same quantity of coal had been sent by the railways of Central Russia at equal distances and for Moscovite factories.

The second cause of the higher cost of production of Polish textile manufactured articles in comparison with the German prices was the higher rate of interest charged on business and working capital.

Notwithstanding all these advantages the German textile industry could not compete with Polish industry. Oscar Geller writes in his New Europe (Das Neue Europa), N. 2, p. 27 as follows: In order to realize the importance of the Polish textile industry it must be emphasized that the Polish articles in wool and even in cotton made at Lodz, are in no way inferior as to quality to the best English manufactures. The town of Lodz—the PolishManchester,—alone occupies more workmen for textiles than all Alsace-Lorraine, and possesses enterprises with which in point of size and perfection, not a single textile factory in Germany can compete."

When it is considered that the detour to Lotz doubled both the distance the goods had to travel and the cost of freight at the same time, it seems almost inexplicable that Lodz was able to compete with the Moscow factories in the center of Russia. This fact was chiefly owing to the better organization of the Polish factories and the Polish working efficiency. Besides this, Poland already had a good nucleus of skilled factory hands, who only did this kind of work, whereas the Moscow workman was still for the most part, only a day-laborer, and between whiles cultivated his land.

Favored by the increased number of railways from Warsaw to the center of Russia at the beginning of the eighties, Polish goods captured the markets of new Russia (the governments of Bessarabia, Cherson, Tauris and Jekaterinoslaw) of Trans-Caucasia in the middle of the eighties, and Siberia as far as Omsk in the beginning of the nineties. Of late years Polish industry has been making efforts to extend its sale throughout the whole of Siberia, by means of exhibitions, especially the "Museum of Goods of the East" in Warsaw.

One of the most important article which Russia obtained from the West, was American cotton sold by the English merchants of Liverpool as raw material, or by the English spinning mills in Manchester as yarn, and then woven in the Polish factories for the use of Russian peasants. Such cotton became the basis for a constant community of interests and for uninterrupted relations between the civilized West and Russia. Now the Germans intend to destroy this basis by

making themselves masters of the Polish industry and at the same time by trying to develop the cultivation of Russian cotton. It is just this Russian cotton which, as the Germans hope, is destined to push out the Anglo-American cotton from the markets of Germany, Poland, Russia and Siberia, i. e. from the territories between the Rhine and the Pacific. The last place on Russian territory in which Anglo-American cotton could compete before the Great War with Russian cotton, was Poland with all its important factories. But Poland cannot by herself alone reconstruct her ruined industry, and so she must inevitably come under the economic influence of that Power, which without further delay shall take into her hands the restoration of the Polish industrial life.

In Galicia, Austrian Poland, it must be admitted the textile industry has been but slightly developed, and in German Poland it has been deliberately and maliciously repressed. In Galicia plants at Wadowice, Kowy-Soncz and Jasle which employed some tens of thousands of workmen, have been practically obliterated. Many other industries were thus regulated or restricted out of existence, so that for years there has been a seasonal exodus of 400,000 Polish workmen. With Polish growth in influence some changes for the better have been secured, and the Poles created "The Permanent Commission for the Encouragement of Industry" to administer a large private fund arranged by the Poles. The possibilities for development are extraordinary. The last estimates showed that there were only 56 textile plants and three linen plants in operation while the Poles in Galicia have been obliged to spend large sums of money in the importation of textile goods, the value of the textile imports exceeding $100,000,000 a year. In German Poland there is no textile industry but a considerable development in the manufacture of clothing.

Poland's Ways of Communication

The new nation offers a great field for railroad development

RAILROAD building in Poland in the past has been conducted with an idea of military rather than commercial necessities. The Russians, Austrians and Prussians in laying down new ways considered the situation purely from the basis of defense and offense. In Prussian Poland certain commercial lines were built because of the belief on the part of the Prussians that this work would aid in the Germanizing of the population. In Russian Poland, though, there was the political lack of interest in Poland which resulted in roads being built solely with reference to the fortified points.

Under the rule of the new Polish government this situation has changed entirely, and a special cabinet post for the minister of ways of communication has been created, and a program for building new lines and improving old lines for increasing the amount of rolling stock, and for the erection of shops for the building of cars and the assembling and possibly building of locomotives is already in consideration. The English government has already sent a railroad commission into Poland to study the situation and it is reasonably plain that English financial men are taking measures to advance English interests in this most important field.

A study of the railways lines on a map of Poland reveals two outstanding features:

(1). The striking disproportion between the territories covered by the network of railways in Russian Poland on the one hand, and those in German and Austrian on the other.

(2). The absolute deficiency of railway lines in a relatively large frontier zone, extending between the belt of former Russian fortresses and the political frontier of former Russian Poland, resulting from the fact that the idea of connecting the network of railways in Germany and Austria with those of Russian Poland was deliberately avoided.

The deficiency of railways in former Russian Poland can be illustrated by the following comparative table of the development of the railway system in Poland under the different partitioning powers before the war:

Poland	Length km.	Length miles	Population	Miles of railway Per 100 sq. mls.	Miles of railway Per 10,000 Inhab.
Former Prussian Poland (Posnania)	2833	1771	2,135,762	15.7	8.3
Former Austrian Poland	4131	2582	8,625,575	8.4	3.0
Former Russian Poland	3385	2115	12,467,000	4.0	1.7

As compared with other countries the deficiency of railways in Russian Poland can be seen from another comparative table:

Country	Length of Lines per 100 sq. miles in miles	Length of Lines per 10,000 Inhabitants in miles
Belgium	42.8	7.3
England	19.0	5.6
Germany	17.2	6.4
France	14.2	7.6
Austria-Hungary	11.5	5.5
Italy	9.3	3.2
U. S. A.	6.4	26.8
Russian Poland	4.0	1.7

In order to obtain in former Russian Poland a railway network comparable to that of the former German part of Poland, 5,220 miles of railways would need to be constructed. The difference of relative density in the railway systems of former Prussian and Russian Poland is distinctly political, as from the physical point of view both countries are equally favorable to the development of railways. Former Russian Poland actually surpasses Posnania, West Prussia and East Prussia in density of population and as regards natural wealth and fertility, while it possesses extensive forests, and coal and iron deposits in the southwestern districts.

Agriculture in the former Russian Poland has been actually hampered in its development by the lack of railway communication.

The railway deficiency in former Russian Poland is explained not only by the lack of interest in the economic development of Poland displayed by the Russian administration, but by reason of the determination of the former Russian Empire to subordinate all economic and other considerations, to the requirements of its military strategy. The railway system was decisively influenced by the position of Russian fortresses on Polish soil and the focal point of all this Russian fortress system was situated at the fortress of Modlin (or Novo-Georgievsk) just at the confluence of the Narev, the Bug and the Vistula.

Towards the southeast there stretches along the broad Vistula a fortress line Modlin-Warsaw-Praga-Demblin, and towards the north, following the course of the Narev and the Bobr, the fortress line Modlin-Serock - Pultusk - Ostrolenka - Lomza - Ossoviets, which cover the river crossings. Behind this strong obtuse angle, the apex of which points towards the west, the sides forming a covering for the flanks, is the great fortress of Brzesc Litevski at an important traffic centre, so that the whole result is a powerful quadrilateral of fortresses.

Toward this quadrilateral runs a series of long railway lines from the widely extended Russian Empire, like rays to a focal point. Two lines lead from Petrograd to Warsaw, and two from Moscow, with numerous cross connections from Central Russia. From Kiev there are two lines running to the qualrilateral, which meet at Kovel and then separate again. The southern line is joined by the Odessa connection.

Thus from all parts of the Russian Empire railway tracks run in nearly a straight line to Poland so Poland is fairly well connected with Russia. On the other hand, there is no corresponding extension of these lines in the west and south of former Russian Poland with former Austrian and Prussian Poland. Only three lines lead westward over the German frontier, of which only one, the southernmost, has two tracks.

This, the Warsaw-Vienna line, opened as early as 1845, is one of the oldest railways on the continent. On the long frontier section from the exit of the Vistula from Poland as far as the southeastern corner of East Prussia, only two lines run northward from the fortress quadrilateral and across the German frontier, the section Modlin-Ciechanow-Mlava, and the section Bialystok-Ossoviec-Grayevo. Two lines run to the fortress of Ostrolenka, which lacks any economic importance, and one to the equally unimportant Lomza, neither of them crossing the Narev. The country north of Lomza has been completely untapped by railways. In the south the section Ivangrod (Demblin) Kielce is connected with the Warsaw-Vienna line, while the lines of Lublin and Chelm, even before the war, lacked any extension toward the south and the Brzesc-Litewski-Kovel line.

The length of the frontier between former

Russian Poland and Galicia from Sokal to Myslowice is in a straight line 230 miles, and there is only one railway line connecting these two parts of Poland, namely at Trzebinia, on its western extremity. Under these circumstances economically important places are without railway connections. For example, Prasnysz, once an important traffic center, has not developed to nearly the same extent as other towns. Plock, the capital town of the Province of the same name is without any railway connection and only possesses a waterway on the Vistula. The most important industrial town of Poland, Lodz, only a few years ago was not on a main line, but a special line connecting it with the main Warsaw-Vienna railway had to be constructed.

The plan for the construction of railways in future reunited Poland must achieve two main objects: 1. To satisfy the economic needs of the country; 2. To connect artificial dismembered parts of Poland in one complete railway system and to give better communication with the west.

These lines, according to the above stated main objects, can be divided into two groups:

1. Lines satisfying the economic needs of the country, i. e. connecting the principal industrial centres with the coal districts of Dombrowa.

2. Lines connecting the dismembered parts of Poland into one railway system and giving better communications with the West.

The following lines belonging to the first group must be constructed first of all:

1. Dombrowa - Czenstochowa - Osiakow - Zdunska Wola - Lenczyca - Kutno - Plock - Ciechanow-Ostrolenka, 470 km. (295 miles).

2. Dombrowa - Wloszczowa - Konskie - Warsaw - Lomza - Augustow - Suwalki - Wilkowyszki, 660 km. (412 miles).

3. Konskie-Bialobrzegi-Siedlce, 210 km. (131 miles).

4. Konskie-Radom, 70 km. (44 miles).

5. Kielce-Ostrowice-Lublin, 170 km. (106 miles).

6. Ostrowiec - Zawichost - Zamosc - Wlodzimierz-Wolynski, 250 km. (156 miles).

Total, 1,830 km. (1,144 miles).

These lines, representing a total mileage of 1,144 miles, are absolutely indispensible for a normal and independent development of the economic life of Poland.

2. Second group, to be constructed after the completion of the first:

1. Mlava-Ostrelenka, 90 km. (56 miles).

2. Wloclawek - Gombin - Warsaw - Lukow-Kowel, 80 km. (300 miles).

3. Slupce-Kutno, 120 km. (75 miles).

4. Wieruszow-Osiakow-Piotrkow-Radom, 240 km. (150 miles).

5. Piotrkow - Wloszcowa - Miechow - Krakow, 180 km. (112 miles).

6. Konskie-Kielce-Szcucin, 120 km. (75 miles).

7. Radom-Ostrowiec-Sandomierz, 110 km. (70 miles).

Total, 1,340 km. (838 miles).

During the war several new lines have been built for military purposes, namely, two lines connecting former Russian Poland with Galicia:

1. Lublin-Rozwadow, 120 km. (75 miles).

2. Chelm-Belzec, 150 km. (94 miles).

and two with East Prussia:

1. Suwalki-Margrabowa, 35 km. (22 miles).

2. Ostrolenka-Wielborg, 75 km. (47 miles).

Total, 380 km. (238 miles).

After the completion of the whole projected scheme for developing railway communications in the former Russian part of Poland, the total length of the lines will be:

Lines completed before the war, 3,385 km. (2,115 miles).

Lines completed during the war, 380 km. (238 miles).

First group to be constructed, 1,830 km. (1,144 miles).

Second group to be constructed, 1,340 km. (838 miles).

Total, 6,935 km. (4,335 miles).

thus giving per 100 sq. miles 8.7 miles, and per 10,000 inhabitants 3.6 miles of lines, instead of the pre-war data 4.0 and 1.7 respectively.

The necessary rails and fittings (taking 80 tons per kilometer of a single track line) will total about:

For the first group, 150,000 tons.

For the second group, 110,000 tons.
Total, 260,000 tons.

In addition to this there should be electric stations, telephones, telegraphs, water supply installations, equipment of repairing sheds and work-shops, steam shovels, hoisting cranes, trolleys, tools, instruments and all kinds of different materials (such as sheet iron, cement, dynamite, instrumental steel, tar-paper and others).

As far as rolling stock is concerned, nearly all the wagons, passenger coaches and locomotives have to be provided, not only for the lines to be constructed, but also for the whole network of existing railways in former Russian Poland. The Russian wider gauge of all the lines in former Russian Poland was changed under the German occupation into the standard European gauge. The rolling stock which was captured in Poland from the Russians has not been left by the Central Powers for the benefit of the country they have overrun; therefore the Polish lines are in an absolutely desperate position; the question of the rolling stock should be solved at once and arrangements made for an immediate delivery of the following quantities, calculated not only for the lines in existence, but also for all the lines to be constructed, as shown in the table below:

	Length in miles	Locomotives	Freight cars	Passenger cars
For lines built before war	2,115	1,260	35,272	1,000
For lines built during war	238	141	3,960	122
For first group of lines to be built	1,144	681	19,068	590
For second group of lines to be built	838	498	13,963	432
Total	4,335	2,580	72,263	2,233

The question of providing Poland with rolling stock is extremely important, because there is the danger that if it is not supplied by the Allies, Germany would be able to carry out her plan of supplying Poland with materials and rolling stock and at the same time would claim control over the Polish railways, as all her present policy shows that she is fully aware of the obstacle a strong and economically independent Poland will prove to the expansion of German trade in Russia.

By helping Poland to build a dense network of railways, the Allies will assist her more than by any other means. And at the same time a great field is open for the Allies and the United States for an investment as secure and profitable as railways present in any country having a great economic future.

Electrical Activities in Poland

Developments for power purposes already planned and waiting

CONSIDERING the character of the rule under which the Polish business men had to exist it would not be at all suprising if they had degenerated into mere time servers. At every turn where they sought to advance the interests of their country, they were met with rules, regulations, freight and customs differentials, all of which were aimed to hamper their trade, to cripple production, and to force them to import rather than manufacture.

Yet even at times when the shackles bore the heaviest, Polish experts were at work planning new undertakings and seeking to develop new industries. One of the last important tasks previous to the opening of the war on which the Polish engineers were engaged was the development of a scheme of electrification for what was Russian Poland. They had in mind an elaborate scheme by which with boosting power stations they could supply the industries of Poland with electricity for power purposes. The plans were so meritorious that German on-lookers, quick to seize upon an opening, endeavored to possess themselves of the plans under the assumption, a natural one at the time, that though the Russian government might refuse the necessary concessions to the Poles,

that it would be willing to grant German demands. In this case the declaration of war prevented the consummation of this scheme.

Now that a Polish government has been created there is no reason why this work cannot be taken up and again it can be said the opportunity to assist in this undertaking should be appreciated by American and English capitalists. The industrial activities of Poland are so centered that there is no reason why a complete system of electrification cannot be installed at a relatively low cost and with an immediate and profitable market for all the power which may be produced. The plan includes using steam plants in Russian Poland and in Galicia using a combination of steam and hpdro-electric plants.

The problem is to transfer electric power from electric stations in the Polish-Silesian coal district to the main industrial districts around Lodz (approximately 120 miles), and around Warsaw (approximately 180 miles), controlling at the same time the electrical power distribution in the mine district with its industrial plants as well as supplying the numerous industrial and agricultuarl establishments all over the country.

American concerns interested in the electrification of Poland should follow the policy of establishing in Poland, with American capital, factories making standard electrical machinery and supplies, bearing in mind that:

1. The tendency in Poland will be to become economically independent of the Germans, not from sentimental reasons, but because, as we know from long experience, Germany has, by flooding our market with her industrial products, always endeavored to kill our commerce and industry, which might otherwise have become a dangerous competitor.

2. Any American concern, trying to gain the Polish market through its Russian organization, is liable to find its success handicapped because of—

a. The tendency among the Poles to be economically independent of Russia as well as of Germany.

b. The quality of Russian products will not for some time reach the standard of an American or other foreign pattern, in consequence of inferior workmanship.

3. The above plan covers the only way for an American concern to successfully work in Poland, namely, by creating new factories there on the spot, thus:

a. Gaining full confidence of the Polish people.

b. Avoiding import duties.

c. Profiting by Polish labor.

d. Having every guarantee possible against Bolshevism.

This plan requires sufficient help from American in the way of capital, raw materials, and half-finished products, which Poland will not have available in sufficient quantities.

Of course such newly created factories of electrical machinery and supplies will, at least in the beginning, not be able to manufacture heavy machinery, such as steam turbines, large transformers, etc., but will have to restrict themselves to machines and apparatus of one type, which will be easy to manufacture in large quantities. This supply, however, will cover the bulk of the requirements, and the smaller profit on the import of a few steam turbines, etc., will be greatly offset by creating the opportunity of making and selling standard machinery and supplies in big quantities.

In 1910 there were twelve plants manufacturing electrical supplies in Poland, with approximately 1200 workmen, (detail and supply apparatus, electric meters, metal filament and carbon lamps, coals for arc lamps, insulating tubes, etc.) A complete survey of the water power possibilities in Galicia will, according to all reports, disclose possibilities of development. Before the war electrical and electro-chemical industries were started. In 1912 the first central electric power station was opened at Siersza. Two other large developments intended to use the water power of the Dunajec and Dneister for electro-chemical production, were all planned but have been held up by the war.

Poland, under the new regime, not only offers opportunities in plenty for a comprehensive electrification system, but owning to the number of industries and their generally compact location, they can be easily fed by power lines, with profit, not only to the manufacturers, but the power men as well.

Agriculture in Poland

Agriculture has been the traditional occupation of the Poles. Poland was for centuries considered the grainary of Europe.

The soil in Poland is not of uniform character. It is to be noted that small, and medium-sized holdings form some 70 per cent of the total arable area for the whole of Poland. The following figures illustrate the division of the area of the three parts of Poland in regard to the utilization of land, in hectares and per cent of the total area:

Parts of Poland	Arable Land	Meadows and Pastures	Forests	Orchard	Not under Culti-	Total
Kingdom of Poland.....	6,916,335	1,818,038	2,211,301	479,107	859,995	12,284,786
	56.3%	14.3%	18.0%	3.9%	7.0%	
Prussian Poland..	4,635,668	902,092	1,803,111		640.229	7,981,100
	58.1%	11.3%	22.6%		8.0%	
Galicia.....	3,806,887	1,640,494	2,017,258	109,889	274,724	7,843,252
	48.5%	20.9%	25.7%	1.4%	3.5%	
Entire Poland....	54.6%	16.0%	21.4%		8.4%	28,109,138

Poland (entire Poland) occupies the fourth place in regard to the production of wheat and the third in regard to rye, per hectare.

IN QUINTALS TO THE HECTARE

	Wheat	Rye	Barley	Oats
(1) Kingdom of Poland.....	13.0	11.0	13.0	10.0
(2) Prussian Poland				
Posen.....	23.5	19.3	23.8	23.4
West Prussia.....	22.2	16.0	23.0	21.2
Polish Silesia.....	20.5	17.8	22.7	20.7
(3) Galicia.....	13.4	12.3	11.7	10.2
(4) Lithuania and White Russia....	9.9	8.0	7.0	7.2
(5) Little Russia.....	11.7	10.6	10.6	10.8

Agriculture reached its maximum development in Prussian Poland by reason of the favorable conditions of the German market which was protected by high import tariffs. The yield of grain and potatoes in these provinces is relatively above the average of that for the whole of Prussia. The yield of grain in Prussian Poland was 90 per cent higher to the hectare than in Russian Poland (Kingdom of Poland), where agriculture, in consequence of the Kingdom of Poland not being separated by a customs frontier from a country so vast and fertile as Russia, was placed in conditions unfavorable. It was further handicapped by special differential railway tariffs which favored importation of cereals and flour from the central provinces of Russia.

Considering that Russian Poland imported during the period 1909-13, in comparison with its consumption, 5 per cent of rye, 26 per cent of wheat, 10.2 per cent of oats (export of barley exceeded the import); that the increase in the yield of grain in Russian Poland, coupled with the advantages for the growth of grain can easily result in a yield of 40 per cent or 50 per cent higher than the present; that Prussian Poland has always been a province exporting grain into industrial districts of Germany; that Galicia has ever raised sufficient amount of grain for its own consumption,—one cannot but be convinced that independent, united Poland, will doubtless be able to export a considerable amount of grain products.

Having a convenient outlet to the Baltic, United Poland will find itself in especially favorable conditions for exporting considerable part of her principal product.

Outside of grain United Poland will also be able to export potatoes, mainly in a dried state. The preparation of the last-named product has recently had considerable development in Prussian Poland. Under the old regime such development was not possible because of the high railway tariffs which placed this article of food on the same basis with dried fruit.

Cattle raising was in the last decade, conducted normally only in Prussian Poland, where prices for cattle and by-products were comparatively high. The raising of big-sized cattle in Russian Poland became an occupation of decreasing profit.

The unattractiveness of stock raising is ascribed to the following causes:

Prohibitive veterinary measures, taken by the German government.

Consumption of local market for meat in Russian Poland. Owing to this fact, the prices for local meat were out of proportion to the cost of production.

In an independent Poland, there will be great possibilities for cattle raising, after the Polish provinces, now ruined by the war, will have again been stocked with sufficient numbers of cattle. There will also be offered an opportunity for the export of butter amid attractive conditions, especially when Poland has a convenient port.

Horse breeding will also have a better outlook, and will follow a more rational course. With the improvement of opportunites for stock raising, not only will the number of heads increase, but the quality will also improve. In independent, united Poland, gardening,

fruit farming and especially hop raising will doubtless flourish. Hops and apples will be valuable products for export. The existing export of poultry and eggs from all parts of Poland will naturally increase.

Beet Sugar Industry.—Of industries connected with agriculture the most important is the beet sugar industry. Especially high results were achieved in Russian and Prussian Poland, as both in Russia and Germany there were always open markets for sugar manufactured in Polish provinces.

Before the war, the total production of beet sugar in the three parts of Poland was as follows:

	Yield per hectare	Total crop Beet Sugar in metric tons	Production of Sugar in metric tons
Kingdom of Poland	20.61	1,473,760	214,788
Prussian Poland*	27.90	.....	.....
(a) West Prussia	....	991,433	130,000
(b) Posnanie	29.30	1,976,923	330,000
Galicia	18.10	32,500	16,383
Total		4,474,616	691,171

*With the exception of the Polish part of Silesia, for which separate figures are not available. It is to be noted, however, that Polish Silesia has already a large production of sugar beets, and will certainly be able to cover the needs of her large population.

The beet sugar industry is to a great extent, essentially a Polish industry. The sugar factories are generally very large and the most progressive methods are in operation; Polish capital and Polish technical knowledge have already found an excellent field of operation, not only in the neighboring provinces of Russia (South Western Russia) where the Poles control a considerable number of beet sugar factories, but even in the Russian sphere of influence in Manchuria.

Alcohol.—The production of alcohol in Poland occupies the second place among the industries connected with agriculture. Alcohol in Poland is wholly a potato product.

In the Kingdom of Poland, there were before the war, 499 distilleries with a production of 7,792,259 hectolitres of pure (100 per cent) alcohol. The Kingdom of Poland produced about 12 per cent of the total alcohol production in the Russian Empire, when its population formed approximately 7 per cent of the whole population of Russia. The consumption of alcohol for all purposes, including industrial purposes, is relatively low in the Kingdom of Poland. In Prussian Poland where potato crops were on one of the highest standards in the world, the production of alcohol was naturally very large. There existed 596 distilling plants in Posen and 348 in West Prussia. The yearly production of alcohol amounted in these two provinces to 1,510,500 hectolitres of pure alcohol. For the Polish part of Silesia separate figures cannot be obtained.

In Galicia there existed before the war 817 distilling plants with an annual average production of 721,000 hectolitres, of which about 50 per cent were consumed outside of Galicia.

Starch, Potato Syrup, Dextrine.—The constantly increasing excess of potato crops, which could not be used for direct consumption or in the alcohol industry, found its utilization in the production of starch, and also such products as potato syrup and dextrine, obtained from starch by special chemical processes. As this industry was started on a larger scale only in the beginning of the present century, exact figures are unfortunately not available.

Brewing.—Barley and hops being raised extensively in all three parts of Poland, there was quite a favorable ground for the brewing industry.

Milling Industry.—The milling industry was properly developed only in Prussian Poland. In Galicia and specially in the Kingdom of Poland the development of this industry was decidedly below normal. In these last-named parts of Poland, there was quite a number of mills, but generally of the most primitive character, unable to produce flour of better qualities.

Lumber Industry.—In all three parts of Poland large areas are under forests. The situation in regard to forests was before the war as follows.

	Hectares	Per Cent of Total-Area
Kingdom of Poland	2,211,261	18.0
Prussian Poland—		
Posen	576,961	19.9
West Prussia	585,278	22.9
Polish Silesia	381,024	28.8
Galicia	2,017,258	

In Prussian Poland and also to a certain extent in Galicia, forestry was placed on a modern scientific level. There exist lumber mills, producing wood pulp, and other products from the hard and soft woods available.

The Looting of Poland

The Protest of the Polish Manufacturers

Stories of German looting in industrial Poland have been told many times but the following protest made by Polish Manufacturers is interesting because it sets forth in some detail the exact proceedure followed. In reviewing the German work in the Polish industrial territory it is plain that it was directed with the primary idea of increasing German trade supremacy. The removal of brass parts from looms and textile machinery can be explained on the grounds that the Germans needed these parts for replacement of worn parts of their machines in Germany, but the ruthless burning of factories and the sale of the debris and the right to sort the debris, can only be credited to the German desire to remove industrial competition and to make the Polish people purchasers rather than sellers of commodities.

MEMORANDUM of the SOCIETY of the MANUFACTURERS of the KINGDOM of POLAND concerning the policy of the German authorities as directed against POLISH INDUSTRY; presented to the PRINCE of SALM, a.d.c to the Governor-General von BESELER; transmitted by the COUNCIL of STATE of WARSAW, 10 March, 1917.

Official declaration of the German Government promised that the country would be treated as a friend and not as an enemy. The Chancellor of the Empire in his speech of August 19, 1915, expressed the hope that Germano-Polish antagonism would be a thing of the past and declared: "We have decided to rule with justice the occupied countries and admit as far as possible the collaboration of their own inhabitants."

This same promise was given us by his excellency, von Beseler, when assuming the position of General-Governor of Warsaw.

In reality the behavior of the German authorities in our country during the whole time of the occupation has constituted a positive negation of all these solemn promises. After a survey of all the facts our industrial authorities have come to the conclusion that our industries and trades are being systematically destroyed with malice aforethought.

1. Destruction of factories.

Examples: (A) The Lowicz chemical and artificial manure manufacture society was damaged greatly by the war and 2500 wagon loads of raw material, finished goods and chemicals, were exported to Germany. The machinery, damaged by fire, along with the tools and instruments which the fire had spared, were sent as pure scraps to Katowic (Germany) together with a quantity of old scrap iron, brass and copper.

The wooden parts of the buildings were broken up and sold to a private firm who removed them from the premises. To another firm was sold the right of digging and extracting from the debris a certain quantity of lead. Nobody belonging to the Board of Managers or employees was allowed on the spot, and this prohibition was maintained until December 11th, 1915. The amount of damage done to the Lowicz Company has been assessed at about 900,000 roubles, while the general losses sustained by the Company as a result of these German unfriendly actions, civil or military, amount to 2,000,000 roubles. For material which had been carried off elsewhere, not a penny has been paid up to the present time and the only compensation, which only covers a part of the material taken away, was some kind of requisition cheques, without any notice being taken of the value of the confiscated goods.

(B) The "Lilpop Rau and Lowerstein" Company, Warsaw, had their factory entirely dismantled; As a result of these operations there remained on the site only a quantity of bare walls.

As a rule systematical requisitions, confiscations and forced sales have got rid of all the technical installations of industries, besides depriving them of raw material (the latter by an order concerning leather belting, Deutsche Warschauer Zeitung, No. 248,916) and different finishing machines. In this way the Germans have brought about the complete wreck of many departments of industry in our country.

2. Methods of expropriation.

We find four different forms of expropriation applied by the German authorities:

1. Requisitions. 2. Forced sales by military order. 3. Organization of consented sales, but in reality forced requisitions of goods by the War Committee. 4. Expropriation.

In the town of Lodz the larger part of the raw material was expropriated by order of Major General Gerecke. First it was sequestrated, and then the order came out that certain material set forth was to be sold and acquired by the military authorities. When the section of textile industry at Lodz presented their bill for payment after the goods had been carried away, the president of the Indemnities Commission of the German Federation declared that the goods had not been acquired but only requisitioned. Because of that the president of the Commission decided in this case that general rules should be applied by the Indemnities Commission, which are in absolute contradiction with the laws of the Hague Convention.

We cannot avoid seeing in the manner of the so-called "voluntary sale" of sequestrated goods to the Military Department of War materials, or to War limited companies, having exclusive rights of purchase, a decided intention to speculate at our cost and to our prejudice. Legal expositions of the case have fully proved that there was no possibility of a friendly arrangement concerning the object of sale, designated beforehand by the order of sequestration, and no elasticity was allowed either in regard to the prices which are fixed in advance through an understanding. The owner has to choose between yielding up his goods at prices fixed in advance, or expropriation with payment after the war. The application to such an oper-

ation of the term "voluntary" amounts in principle to a logical contradiction, and from the legal point of view is nothing else than a masked requisition. Several of the firms refused to accept the prices offered for scrap-iron by the "Alteisen Verwal tungsgesellschaft," whereupon this company under cover of the General-Governor's order began at once to carry away the scrap-iron mentioned, and the firms were advised that the "free sale manner was given up."

3. The aim of expropriation.

The majority of expropriations undertaken in our country are not for the general good nor do they cover the requirements of the occupying army or the necessities incident to a state of war; all that they aim at is to obtain great benefits to German trade and industry. This is largely shown by the use made of expropriated goods, which are freely sold on the German local market, as well as by the characteristic type of articles chosen for expropriation, which can be set forth as follows:

(*a*) articles easily sold on German markets: for example, iron scrap which is quickly returned to the Kingdom of Poland in the form of shaped or rolled iron.
(*b*) goods having no connection with army wants: for example, women's linen.
(*c*) luxury articles, like plush lace, curtains. Many examples of the kind could be enumerated.

4. Action of the German War Joint Stock Company.

The German War Company possessed of the monopoly and power of acquiring the sequestrated goods upon our territory is selling them to industrials and German wholesale traders. It is only through the medium of the latter that the goods are appearing on the retail market for the wants of the German civil population. The prices fixed in the "voluntary" sales in our country are entirely dependent on the above mentioned Company, and are lower than the prices obtaining before the war. Consequently we must contend that those operations are nothing less than war contributions, levied on us for the benefit of German industrials, traders and German philanthropic institutions.

The above mentioned Company's action is no secret. They admit it to be a form of war contribution even in the case when goods acquired under brutal pressure or through expropriation are sold second hand to local firms. For instance, a lot of coal-tar underwent requisition at the "J. K. Poznanski" Works, Lodz, at the price of 12 mks. per 100 kgs., and having been left in store on the spot, was soon sold to the "M. Silberstein" Works for the price of 20 mks. the 100 kgs., and delivered on the same premises.

The "Grodziec" Coal Mine Company was in great want of leather for shoes for their workmen. The license to acquire the goods directly from the firm of Pfeiffer Brothers & Temler at Warsaw, tanners, was refused, but accorded through the intermediary action of a German limited company "Kriegsleder," which gave instruction to Pfeiffer Brothers & Temler to forward the leather to the "Grodziec" Company for the account of the "Kriegsleder" Company. The financial result of this operation was as follows: the "Grodziec" Company paid the "Kriegsleder" Company at the rate of 9 mk. the kg., while the "Kriegsleder" Company only paid Pfeiffer Brothers and Temler, mks. 6.25 the kg. The local industrial trades are up against this ruinous policy of forced sales.

5. System of Valuation.

In cases where prices are not determined beforehand, the valuation of expropriated goods is made by partial German experts who act by orders from the interested party. It is easy to convince oneself by looking over the adjoined expose of the Lodz textile section that those experts give themselves no trouble. Their valuation is quite superficial, goods are not examined, and different prices are fixed for the same kind of goods in different manufactures.

6. The behavior of authorities when expropriating.

This painful side of our expropriation is increased by the abuse of authority, whose unlimited power is quite uncontrolled. At sales of sequestrated goods constraint and intimidation are often employed. Official buyers threaten to order requisition at lower prices, or to confiscate without indemnity. Finally penal measures are taken for rebellion against the orders of authority. The expropriated goods are often carried away, and no formal proof is left in hand to the late owner.

To illustrate the behavior of the occupation authorities, we give the following examples:

(1) The Manufacturers' Association claimed that no receipt had been given by the "Alteisen Verwertungsgesellschaft" for iron carried away. The head manager replied: "I must protest with all my might against complaints by the manufacturers." The Association having once more proved the veracity of its claim, summed up the case as follows in a long and elaborate note with adjoined proofs: "We have therefore the honor to beg His Excellency to be so good as to give attention once more to our suit and so withdraw the ungrounded and serious charge made against us." Since then three months have passed away, but his Excellency has given no response.

(2) The joint stock company "J. Heintzel" in Lodz, having petitioned for the liberation of its sequestrated goods had to be contented with the following reply from the Department of Raw War Material. "If the company is annoyed at its want of ready money, the remedy is in its own hands, as it could get money by selling its goods in Warsaw to the German authorities."

The Department of Raw War Material further added that in future it would be forced to "proceed with its requisitions in a quicker way than was first intended."

(3) To the section of textile industry in Lodz who had protested against the expropriations carried on against them because they had refused to accept the low prices forced on them by the Commission, the General-Governor answered: "It is entirely the affair of the producer, because through an understanding with the Commission he can avoid expropriation."

Requisitioning the metallic parts of the machinery.

The consequences resulting from the requisitioning of the metallic parts of the machinery are simply overwhelming for many industries. Besides the loss in value of the metal as compared with its price before the war, we must take into account the expenses for

new models and designs of the missing parts, as well as the cost of their purchase which is several times greater than it was before the war. Undoubtedly the loss of the metallic parts of machinery enormously lowers the value of the whole property invested in the undertaking.

Concrete examples.

From the firm E. Briggs Brothers & Co., Marki, near Warsaw, (spinning mills and dye works) were requisitioned 70 tons of precious metal (bronze, brass and copper) two-thirds of it, say 46 tons, taken away from machinery. For example, 27 machines of the combing roundabout type were entirely deprived of their brass combing rings. The value of one machine is about 2,000 roubles, the value of the rings before the war was 400 roubles. Their weight in metal was about 90 pounds. After their removal the machine had lost 30% of its value. Four washing machines of the value of 1,500 roubles each were deprived of their copper barrel drums and brass shafts and now have the value of old iron.

The patent dyeing machines valued at 2,000 roubles each were absolutely plundered of their metallic parts and nothing was left excepting wooden vats which were deprived of their metal screws and so went to pieces, and represent the value of fire-wood.

Out of all the steam and water-pipe conduits their brass and copper valves were taken away, and out of the iron valves the brass spindles, toads and rest were extracted and the valves greatly damaged. To take away the valves screwed to the pipes, the latter were broken thorugh, the result being that the conduit, now rendered too short, had to be dismounted and replaced by a new one. The value of the metal when compared with the value of the valve, especially a valve of small dimensions, is very trifling, as the price of such valves is only 90 roubles per pood (16 kilos). With the disappearance of the valves, allthe steam and water pipes have ceased to be of use. The boilers were provided with the Hopkins patent fittings (armature), very costly, representing several thousand roubles for each boiler, but this value went down to zero, and for the extracted metal only a very trifling sum can be obtained.

The requisitioning of metals has been continued until the present moment, and it is impossible to estimate definitely the extent of the damage done. The dismounting of all the metallic parts of the machinery and pipes was undertaken under pressure and threat of confiscation and without compensation. To dismount the machinery the factory was obliged to employ and pay 25 hands during five or six weeks.

The above is a bird's-eye view of the policy of the occupation authorities in our country. Warsaw has lived under such a rule for sixteen months, and the earlier occupied provinces three years. It is not surprising that such a policy has developed feelings of great uneasiness in the country and specially among the representatives of her industry.

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