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THE NEW RUMANIAN STATE

REGIONS AND RESOURCES

By E. M. SANDERS

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Rumania is one of the most vigorous of the newer states of post-war Europe. Before the war she had shown very considerable progress based in large measure on the rapidly growing importance of oil as fuel, of which commodity she possessed notable resources. Since the war the new boundaries have further added to her status (Fig. 1). Except on the south, where the Danube forms the confines, she has advanced in all directions. Her area has been more than doubled (113,600 square miles), and from an awkwardly disposed territory she has become one of the most compact of states.¹ A consideration of the present position of Rumania may be best begun with an account of the natural regions comprised within her new boundaries.

The Natural Regions

A general idea of the natural regions of Rumania which are shown in the map (Fig. 2) may be gained by traveling through the country from the west to the southeast. In such a journey one first passes through a transition region comprising a narrow zone of fertile river plains adjoining Hungary. This is better represented in the south, in the Banat, where intensive farming is practiced. Then a region of high broken contour is circumvented, the Bihar block, along whose borders one may see mining towns, although the greater part of the population is still working on the land. Next a part of the Transylvanian basin is crossed—undulating country composed of a series of fertile basins surrounded by wooded hills. From Transylvania one runs into the high mountains, the Carpathians, in places reminiscent of the Alps with bare rugged peaks and unsurmountable slopes but elsewhere, and especially in the central portion of the arc, recalling rather the Juras with wooded slopes and smooth grass-clad summits. Down the other side of the mountains the region of foothills is entered. Here in a smiling landscape where numerous valleys are flanked by low wooded hills one may see ancient and modern Rumania living side by side. Ancient Rumania is typified by the illiterate peasant living in his little wooden house so brightly painted, working his own field, in his own way, carrying on the age-old traditions. Modern Rumania is typified by the oil wells or by the aerial railway that brings down timber from the hills to the paper mills. From the foothills the road runs on to the plains of the Lower Danube—endless flat land for the most part treeless. Wide fields where crops are growing for export flank the roads. On the plain lie cities which serve as collecting and

¹ Emmanuel de Martonne: La nouvelle Roumanie, *Ann. de Géogr.*, Vol. 30, 1921, pp. 1-31.

distributing centers for the region. Passing the towns one goes on again over the never-ending steppe, which becomes more parched as one journeys eastward. The Danube is a welcome change, the neighboring marshes and the many broad branches of the river affording refreshment after the dusty plain. In the southern part of the Dobruja, which succeeds the plain, the land becomes more accented without becoming more interesting. A bare limestone plateau crossed by wide dry valleys, as parched as the steppe,

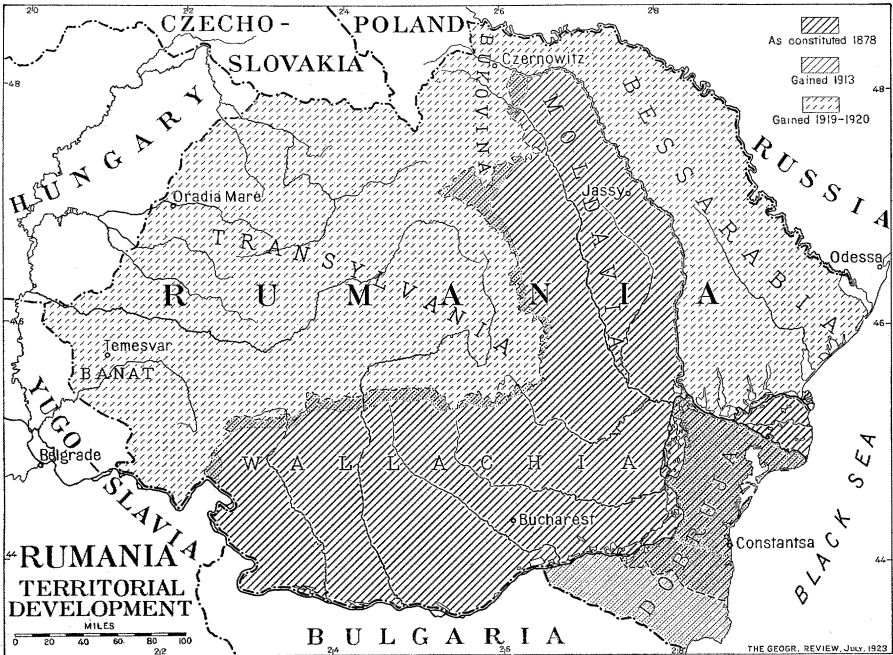


FIG. 1.—Map showing the territorial growth of Rumania from the recognition of independence by the Congress of Berlin, 1878, to the establishment of the present boundaries by the treaties of St. Germain with Austria, (1919), Neuilly with Bulgaria (1919), Trianon with Hungary (1920), and the declaration of the Great Powers, London, 1920, recognizing Rumania's claim on Bessarabia. (On earlier political limits see the map "Der rumänische Volksboden und die staatliche Entwicklung des Rumänentums," Pl. 35, *Petermanns Mitt.*, Vol. 61, 1915.) The stippled area represents the territory Rumania was required to cede by the Treaty of Bucharest, 1918 (see the map "Gebietsabtretungen Rumäniens an Österreich-Ungarn und Bulgarien," Pl. 8, *Petermanns Mitt.*, Vol. 64, 1918), which treaty, however, was never signed and was abrogated by the conclusion of the war. Scale of map 1:7,000,000.

continues on to the coast. Here modern Rumania meets one again in the grain elevators and oil storage tanks of the growing port of Constantza.

Let us examine each of these natural regions more closely.

THE MOUNTAINS OF THE CARPATHIAN SYSTEM²

The most striking feature of the build of Rumania is the great arc of high mountains which forms the backbone of the country. These moun-

² See Emmanuel de Martonne: *Recherches sur l'évolution morphologique des Alpes de Transylvanie (Karpates méridionales)*, *Rev. de Géogr. Annuelle*, Vol. 1, 1906-07, pp. xi-xxi and 1-279; *idem*: *The Carpathians: Physiographic Features Controlling Human Geography*, *Geogr. Rev.*, Vol. 3, 1917, pp. 417-437.

tains of the Carpathian system go under different names in different parts. The section running from the Danube eastward, known as the Transylvanian Alps, merits its name by certain similarities with the Alps of Switzerland. Here may be found lofty jagged peaks, indented by glacial cirques, with lakes and cascades. The mountains as a whole, however, are neither so high nor so continuous a barrier. More characteristically they rise to rounded plateau-like summits penetrated by deep valleys, some of which

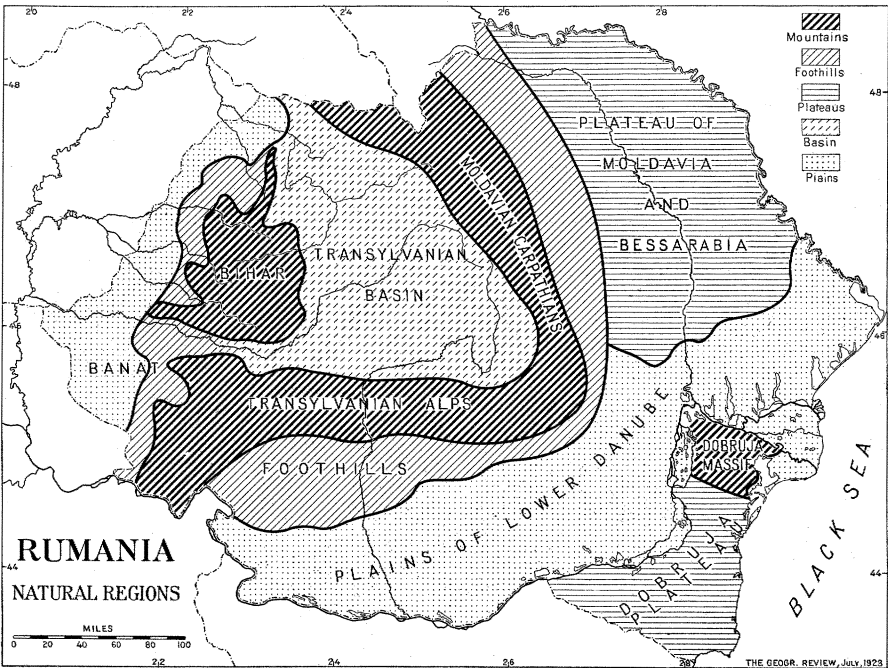


FIG. 2.—Map showing the major natural regions of Rumania. The boundaries of the regions are drawn diagrammatically. Based on G. Murgoci and I. Popescu-Voiteshti: *Carte géologique de la Roumanie et des contrées limitrophes*, 1: 2,500,000; G. Murgoci and I. Popa-Burca: *Harta Fizica a României*, 1: 2,500,000 (accompanying *Geografia României*, New Ser., 3rd edit., Bucharest, 1921); E. de Martonne: *Physiographic Map of the Carpathians*, 1: 2,500,000, *Geogr. Rev.*, Vol. 6, 1917, Pl. IV; and other sources. Scale of map 1: 7,000,000.

cut a passage through the chain. East of the Predeal Pass the chain swings northward under the name of the Moldavian Carpathians. Scenery changes as well as direction. The ancient crystallines of the western section are replaced by weaker rocks. Here the Alpine type of scenery is entirely lacking. Altitudes are lower: the mountains present a maze of flat-topped summits with rounded wooded flanks. In the extreme north of the chain, the Mountains of Bukovina, the Alpine type again appears.

Such is the continuous arc of mountains which encircles the basin of Transylvania on its southern and eastern sides. The Bihar massif completes the mountain girdle of the basin on its western side. This block has been left standing while the surrounding land has subsided. A steep escarpment



FIG. 3



FIG. 4

FIGS. 3 and 4—Plateau-like summits in the Bucegi massif. Note the aerial railway for carrying down timber. The Bucegi massif, lying between the Dambovitza and Prahova valleys, is a transition region between the Transylvanian Alps and the Moldavian Carpathians. It is especially interesting for the highly varied forms of relief exhibited. (Photographs by M. Harret, Sinaia.)



FIG. 5



FIG. 6

FIGS. 5 and 6—The Jura type of relief is seen in this part of the Bucegi massif. Figure 5 is in the upper valley of the Jalomitsa. The amphitheater formed by the headwaters of this stream is richly wooded to high altitudes. Figure 6 shows the head of a gorge. (Photographs by M. Harret, Sinaia.)

frowns over the valley of the Mures beyond which there stretch plateau-like summits deeply cut by streams and diversified by volcanic relief.³

The mountains of the Carpathian system have been the greatest boon to Rumania in the past, for here her persecuted people have fled in times of trouble. Numberless fertile valleys are still occupied by Rumanian farmers, descendants of these fugitives and representatives of the purest Rumanian type. Not only in the past but at the present the mountain zone is a great asset. The forests which clothe the flanks provide the material for one of the most promising of the growing industries, while the proximity of arid lands such as Egypt and large portions of the Mediterranean coastal regions



FIG. 7.—Karst type of country in the Bucegi massif. (Photograph by M. Harret, Sinaia.)

make timber valuable as an article of commerce.⁴ Further, the mountain streams provide the power to drive many mills. The age-old practice of transhumance, that is, the driving of flocks up to summer pasture and the return to winter in the lower land, still continues and provides a valuable link between the opposing flanks of the chain. Although the mountains themselves have no valuable mineral wealth except building stone, yet the same processes which formed the mountain chain are responsible for the mineral wealth which is found along their borders.

THE MOUNTAINS OF THE DOBRUJA

Distinct from the Carpathians in structure as well as position is the mountainous mass of the northern Dobruja.⁵ It seems to be an isolated

³ Emmanuel de Martonne: *Le massif du Bihar (Roumaine), Étude morphologique*, *Ann. de Géogr.*, Vol. 31, 1922, pp. 313-340.

⁴ According to official Rumanian figures 20 per cent of the export of timber and timber products in 1913 went to Egypt and 12 per cent to Turkey.

⁵ See the interesting block diagram by G. Vâlsan: *Câmpia Română*, *Bul. Soc. Regale Române de Geogr.*, Vol. 36, 1915, pp. 313-568; reference on p. 524.

overthrust of the same system as the mountains of the Crimea. The summits are wooded, and copper has been mined on the northern edge of the mountains; but their chief commercial importance at present is as a source of building stone.

FOOTHILLS OF THE MOUNTAINS OF THE CARPATHIAN SYSTEM

The Carpathian foothills of Rumania (including the foothills of the Banat), the extent of which is shown in Figure 2, are in many ways the most interesting part of the country. The hills, which rarely exceed 600 meters (2000 feet), are the remains of a dissected plateau. The valleys are from

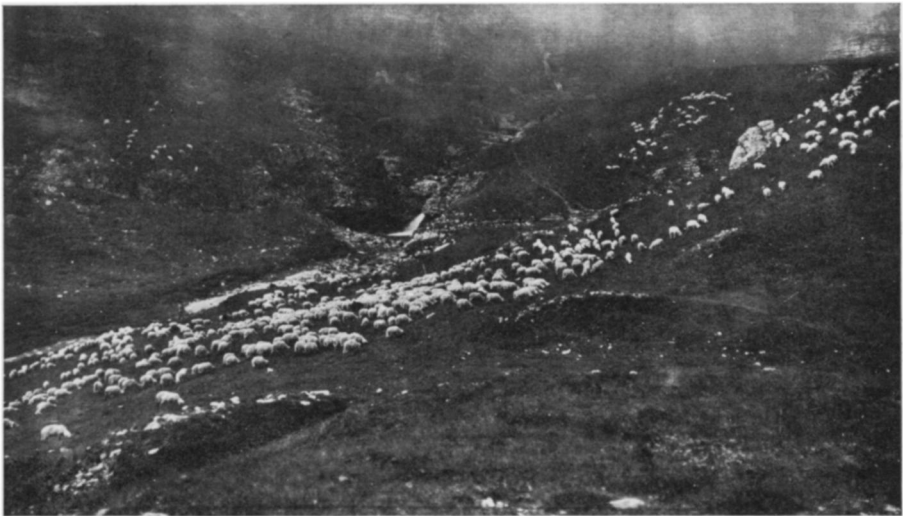


FIG. 8—Sheep in the Carpathians at an altitude of 7500 feet. The Caraiman plateau, Bucegi massif. (Photograph by M. Harret, Sinaia.)

250 to 100 meters (800 to 300 feet) deep. They are exceedingly fertile and are well sheltered, separated but not isolated by the surrounding wooded heights. Conditions of safety, varied resources, comparative ease in gaining a living, with possibilities of intercommunication have supported a marked development of the characteristic Rumanian culture of the foothills. The costumes, embroidery, legends, and customs in this region bear witness to the individuality and wealth of this culture. The density of population is very great in some of the chief valleys of eastern Wallachia (Mutenia) and in the so-called sub-Carpathian depression which in places separates the mountains proper from the foothills.⁶

Such has been the rôle of the foothill region in the past; at the present time it still is one of the most important regions, for here is found Rumania's most remarkable asset, petroleum. The characteristic scenery of the foothills, the gay wooden houses of the Rumanian peasant, surrounded by fields

⁶ Emmanuel de Martonne: *La Valachie: Essai de monographie géographique*, Paris, 1902.

of maize, with a flock of sheep on the near-by hillside and the cumbersome slow-moving oxcart, is suddenly replaced by an unsightly compound of temporary premises, with high pumping apparatus, chimneys, and rubbish heaps, while over all there lingers the smell of oil.

THE BASIN OF TRANSYLVANIA

The region of moderate relief second in importance is the basin of Transylvania. This area of relative depression, which lies however at a fairly high altitude, is itself broken up into a number of basins by low wooded hills. The hills are the remains of a much more accidented region; they have not only been worn down by erosion but also have been half submerged by the eroded material. There is similarity of structure but difference in the proportion of hill to plain as one journeys from north to south in Transylvania. Towards the north the hill gains on the plain, the stretches of flat land become smaller, and the general character of the scenery more undulating.

Transylvania is one of the most productive parts of Rumania and at the same time one of her greatest problems. The climate in summer is hot enough to ripen maize and grapes. The presence of timber, abundance of streams, sufficient rainfall, and fertile soil have always made of Transylvania an attractive region, and people have been drawn in from all the surrounding lands during all periods of history.⁷ Mineral wealth has but added to the general diversity of the population. Rumanian hamlets or isolated farms, big German villages, straggling Hungarian towns come into sight one after another; every valley is occupied. To the Rumanian state Transylvania has brought agricultural products, salt, coal, iron and gold mines; but with them there is an ethnic problem of the greatest difficulty.⁸

THE PLATEAUS OF MOLDAVIA AND BESSARABIA AND THE SOUTHERN DOBRUJA

The plateaus of Moldavia and Bessarabia resemble in structure the foothills region; but the climate is more arid, the loess-covered surface is greedy of water, and in consequence a very different landscape is presented. The wooded area is reduced as one journeys toward the east. The valleys also become broader and shallower. Agriculture is exceedingly profitable in the river plains, but the upland surface is far more monotonous and bare than in the foothill region.

The plateau of the southern Dobruja, still more arid, is essentially a steppe country. It is a limestone region characteristically deficient in surface streams, and, as in the country north of the Danube delta, the lack

⁷ On the historical aspect see an interesting paper by James Berry: *Transylvania and Its Relations to Ancient Dacia and Modern Rumania*, *Geogr. Journ.*, Vol. 53, 1919, pp. 129-152. Note especially the map of boundary dikes (Fig. 14) and the photograph (Fig. 10) of one of the characteristic fortified churches of southern Transylvania.

⁸ Cf. B. C. Wallis: *The Rumanians in Hungary*, *Geogr. Rev.*, Vol. 6, 1918, pp. 156-171.



FIG. 9



FIG. 10



FIG. 11

FIG. 9—Looking across the Danube valley (head of the delta) towards Ismail. (Photograph by Miss M. Pallis.)

FIG. 10—In the Danube delta. Most of the fishermen here are Lipovans, a religious sect emigrated from Russia. (Photograph by Miss M. Pallis.)

FIG. 11—Coast of the Black Sea north of Sulina, sea-drifted peat and sand. (Photograph by Miss M. Pallis.)

of water is rendered even more distressing by the covering of loess which is raised up as dust by tempestuous storms in the dry hot weather. A serious attempt is being made to develop agriculture in this region, for there is usually enough rain in spring to start the wheat, and the district round Constantza is now producing sufficient for export.

THE PLAINS

Mountain, hill, and plateau contribute to the wealth of Rumania; but always the plain stands first in importance, for on the plain are to be found the great wheat fields that make of Rumania one of the export granaries of Europe. In addition to the plain of the lower Danube, which continues into Bessarabia, is a narrow strip of plain on the western edge of Transylvania.

PLAINS OF THE TRANSYLVANIAN BORDER

The plain on the border of Transylvania is the eastern fringe of the Alföld, the great plain of Hungary. The northern portion is comprised by the districts of Maramuresh and Crishana, the southern is a part of the Banat. Exceedingly fertile, well watered, tilled, and fertilized, it is one of the most productive regions of new Rumania. Here, however, is one of Rumania's grave problems in the large Magyar and other alien elements in the population.

PLAINS OF THE LOWER DANUBE

The plains of the western border comprise but a small area compared with the great plain of the Lower Danube. This plain may be divided into eastern and western parts. The western part has sufficient rainfall to support a natural vegetation of rich grass, and here wheat and maize thrive excellently. As one travels towards the east the land becomes drier, and the natural vegetation is poor; but with careful cultivation wheat is profitably raised for the soil is exceedingly rich. In the great plains of Old Rumania one sees large-scale cultivation with machinery which, with the exceeding flatness of the land and the continental type of climate, recalls the Middle West of North America. Bucharest has a temperature regimen similar to that of Chicago, but one degree warmer, and an annual rainfall of 23 inches against 33 inches for the American city. The Danube delta has less than 15 inches of rainfall.⁹

These are the several natural regions comprised within the borders of the New Rumania. They bring together a variety of resources such as constitute the foundation for an exceedingly well-balanced state. We may now inquire as to the manner of their utilization.

⁹ See the rainfall map by E. Otetelizanu and G. D. Elefteriu in *Bul. Soc. Regale Române de Geogr.*, Vol. 39, 1920, facing p. 222.

Utilization of National Resources

LAND TENURE

We shall start with agriculture, for Rumania is essentially an agricultural country. First a word must be said as to the system of land tenure, as this has recently been modified with far-reaching results.¹⁰

Until 1864 Rumania had much the same system of land tenure as Russia; that is, a few landowners held the farming peasantry in a state of serfdom.

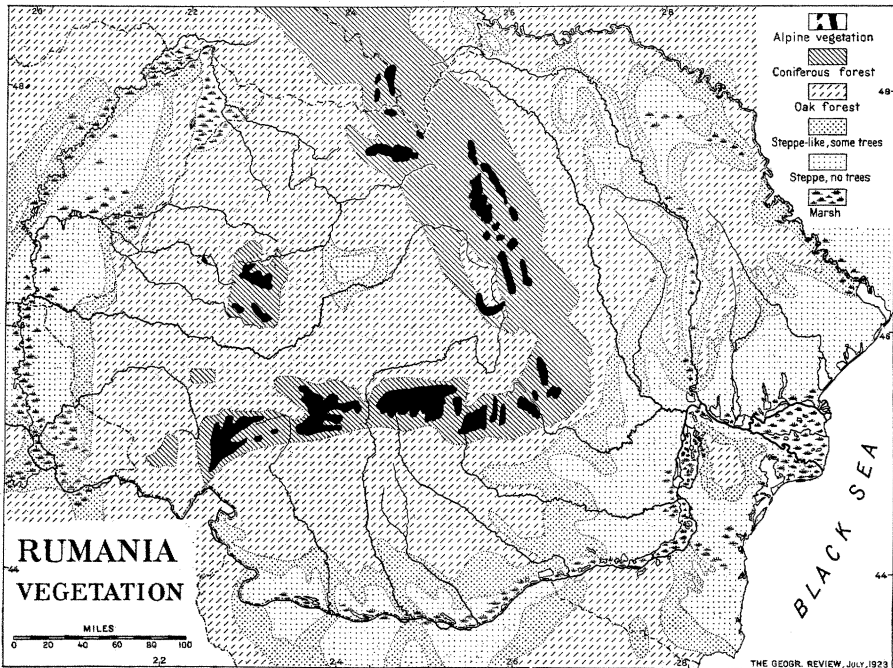


FIG. 12—Map showing the vegetation of Rumania. After G. Murgoci and I. Popa-Burca: *Geografia României*, New Ser., 3rd edit., Bucharest, 1921, map on p. 104. A larger-scale map (1:1,500,000) of the vegetation of the Old Kingdom after P. Enculescu is given in E. Nitz: *Militärgeographische Beschreibung von Rumänien*, Berlin, 1919. See also the maps of soils and woods in this volume. Scale 1:7,000,000.

At that date the peasants were freed; and the property of the monasteries, a matter of 4,000,000 acres, was expropriated and distributed among 400,000 peasants. In 1889, after a rising of the peasants, further relief was given by the division of the state lands, comprising about one third of Old Rumania. These lands were sold in lots to the peasants. In 1907, however, discontent provoked another revolt, and measures were again taken to reduce the size of the large estates for the benefit of the people. The peasants' holdings were still too small for their needs, and in 1912 and in 1914 there were disorders followed by further measures in the same

¹⁰ G. Jonescu-Sisesti: *Agrarian Reform and Agricultural Production in Roumania*, "Manchester Guardian Commercial," *Reconstruction in Europe*, 1922-23, p. 514; *idem*: *Land Reform in Roumania*, *ibid.*, pp. 373-375.

direction. The status before the war may be summed up thus: large estates (that is estates exceeding 100 hectares, or 247 acres) formed 48 per cent of the cultivated area in Old Rumania, 45 per cent in Bessarabia, 34 per cent in Transylvania, 60 per cent in Bukovina. At the same time the average holding per family was 3.2 hectares in Old Rumania, 4.4 hectares in Bessarabia, 3.2 hectares in Transylvania, 1.4 hectares in Bukovina.¹¹ Acts have been passed to reduce the estates and Crown Dominions in Old Rumania still further, limiting them until they only occupy 8 per cent of the total arable land, and to expropriate the large landowners of Transylvania and Bessarabia.¹² Besides the division of large estates among peasant proprietors measures have been taken to give over large tracts of land to peasant associations for cultivation and common pasturage. The Ruma-

1 = OLD KINGDOM			2 = TRANSYLVANIA			3 = Bessarabia			FORAGE CROPS 511,000 Ha. 1,251,000 Ha. 923,000 Ha.	OIL SEEDS LEGUMES	VARIOUS CROPS Remaining area under cultivation			
1	2	3	1	2	3	1	2	3						
W H E A T			M A I Z E			BARLEY			OATS			RYE		
4,151,000 Ha.			4,123,000 Ha.			1,251,000 Ha.			923,000 Ha.			511,000 Ha.		
TOTAL			AREA			=			14,590,000			HECTARES		

FIG. 13—Diagram showing the acreage of crops in Rumania. Based on a table in "La Roumanie économique," 1921, p. 12 (with correction of an error in the figure for maize in the Old Kingdom).

nian Minister of Agriculture, speaking in May, 1922, said that "five million hectares of arable land have passed from the hands of the large owners into those of nearly one and a half millions of heads of peasant families." He added that when the reform was carried through, "out of a total of 13 million hectares of arable land possessed by Greater Rumania, 12 million will have definitely passed into the hands of about 4 million peasants, in separate lots varying from 1 to 5 hectares according to the region and the density of the population. One million hectares only will remain in the hands of about 6000 owners, an average of from 100 to 200 hectares per head . . ." ¹³

AGRICULTURE

Agriculture is still the main industry of the country, not only supporting the inhabitants but also furnishing the chief exports. Three-quarters of the inhabitants of Rumania are employed in agricultural pursuits, and the greater part of these are engaged in crop raising: 45 per cent of the land is arable. From Figure 13 it is evident that wheat and maize are the two

¹¹ La Roumanie économique, 1921, Office des Études et Enquêtes, Ministère de l'Industrie et du Commerce, Bucharest, 1921, p. 10.

¹² *Ibid.*, pp. 24-25.

¹³ H. M. Conacher: Agrarian Reform in Eastern Europe, *Internatl. Rev. of Agric. Economics*, Vol. 1 (N. S.), 1923, Rome, pp. 3-18; reference on p. 15.

chief crops by a long way. The districts that contribute most are Old Rumania and Transylvania, with Bessarabia a good third. The contribution of Bukovina was in each case too small to plot effectively. The figures from which the diagram was constructed give only the area under each crop; the amount produced per acre varies a great deal according to the fertility of the land and the methods of cultivation. In Bessarabia, for example, the average yield of wheat is not more than 13 hectoliters to a hectare, while in Old Rumania the figure is from 15 to 18; and in parts of Transylvania, for example the Banat and the plains of Arad, the yield is higher still. The average for all Rumania is 15.7.

Wheat is grown largely for export. The staple food of the peasants is maize, which, however, also contributes substantially to the exports.

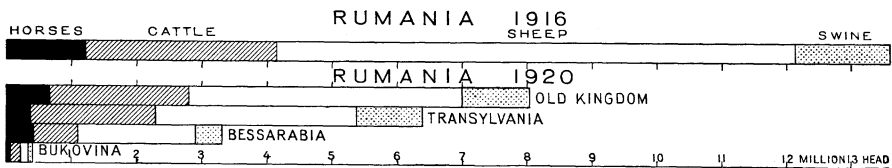


FIG. 14—Diagram showing distribution of live stock in the major political division of Rumania after the war (figures from *Correspondance économique*, Bucharest, July, 1922, pp. 5-6). Figures for the Old Kingdom before entry into the war are given for comparison (from *La Roumanie économique*, 1921).

Division of the large estates among the peasants probably means that more maize will be grown and consumed in the country and less wheat will be grown and exported. Further, a general decrease in yield is inevitable. Even if the peasants could co-operate to use machinery the peasant-proprietor system must make the raising of extensive crops for export difficult, especially while the level of education of the peasant is as low as at present. As a matter of fact the peasant has not yet reached the stage of wishing to use machinery for farm work. Oxen plow and drag his carts, and fertilizers beyond those furnished by the farm itself are unknown to him. The greater yield per acre of the Banat is due to the use of chemical fertilizers, and the large estates of the plains of Old Rumania have furnished proof of the wonderful utility of machinery in dealing with large areas on the plain and in combating the loss that is likely to occur from unfavorable weather. Thus it is to be hoped that in time the peasants may combine and bring their farming methods more up to date. Already some of the peasant co-operative societies have a system of lending certain agricultural machines.

The variability of returns in agriculture is a very serious question. Rumania is on the borderland between well-watered western Europe and the arid lands of southeastern Russia and the Near East. A slight variation in rainfall means serious loss; for example a slight reduction in the spring rains when the young plants are growing or a slight increase in summer when the grain is forming may ruin the crops. In the newer small holdings

there is not the same possibility of tiding over a bad year as there was on the large estates. Again it looks as if co-operation were the only way out of the difficulty.

Animals, hides, skins, wool, and hair all figure in the list of exports; but compared with grain they are unimportant. For the people of the country, however, live stock is an essential part of the farm economy, especially oxen, which are the draft animals. The peasants do not eat much meat, and as a rule its production is for the neighboring towns. In the cattle industry, Transylvania leads, if the number of cattle is considered with regard to the number of inhabitants. In 1917 there were 440 cattle for every 1000 inhabitants. Nor did Transylvania suffer in the war in loss of cattle as did Old Rumania, who found herself crippled for want of draft animals when the war came to an end. Transylvania also has more sheep per head than have other parts of the country; she has 790 for every 1000 inhabitants. The relief of a large part of Transylvania makes shepherding a more profitable occupation than agriculture; while the plains of Old Rumania are agricultural land *par excellence*, although the relation between crop growing and the rearing of animals varies from time to time and from place to place. Bessarabia specializes in the breeding of horses, as is natural on the border of the steppes. The Banat and Bukovina raise quantities of pigs, largely in connection with the growing of maize. All the animal industries date from antiquity, but they received a stimulus from the general era of prosperity enjoyed before the war, for the growth of large towns made an increased supply of meat necessary. Figure 14 shows the actual number of animals in each division and also gives some indication of the loss of draft animals incurred by Old Rumania during the war.

In Old Rumania forests covered less than one-fifth of the land area. Wood, however, has played an important rôle in the domestic life. Absence of wood on the plains was undoubtedly one of the factors delaying settlement there,¹⁴ just as the open prairies failed to attract the early settlers in Illinois.¹⁵ In the new Rumania the proportion of forest is some five per cent greater, the forestal resources of Bukovina (= beechland) and Transylvania, where the forests occupy respectively 43 and 38 per cent of the surface, more than balancing the forestal poverty of Bessarabia.

A passing reference may also be made to the fisheries specially important in the Balta region, that is the 10 to 12 mile wide stretch of river channels, islands, and marshes of the Danube between the heights of Dobruja and the Baragan steppe.

MINERAL WEALTH

The mineral wealth of Rumania includes petroleum, coal, iron, natural gas, gold, salt, copper, iron, and manganese. Of these petroleum is by far the most important. Rumania's chief claim to present world importance

¹⁴ E. de Martonne, article cited in footnote 1, p. 23.

¹⁵ H. H. Barrows: *Geography of the Middle Illinois Valley, Ill. State Geol. Survey Bull. No. 15*, Urbana, 1910, p. 77.

is based upon her oil production (see Fig. 16). Many other countries can produce cereals on a large scale, but to few young states is it given to be fourth in the world production of an important fuel (as Rumania was for several years before the war)—a fuel, moreover, whose total amount is strictly limited and for which the demand is enormous and increasing. The greatest amount in pre-war times came from the Prahova field, of which Ploeshti is the center. The returns for March, 1922, show that the Prahova field still produces over 80 per cent.¹⁶ Along the foothills region there are other fields, but of less importance. Dambovitza is the center of one to the west of Ploeshti, the Buzău field is to the east of the Prahova, while the Bacău field is in the Moldavian foothills further north. It is probable from the geological structure that there are large deposits as yet untouched.¹⁷ The oil belt of Rumania is continuous with that of Galicia, and promising indications have been obtained in Bukovina, for instance.

Figure 16 is of further interest here as a comment on the effects of the war. Failure of the petroleum industry to recover its pre-war standing is explained in part by the fact that more than 1500 wells were put out of action before the Rumanian retreat. In addition to this deliberate destruction, the enemy before they departed inflicted great loss on the plant necessary to the oil industry. Reservoirs capable of holding 1,000,000 cubic meters were destroyed, about 1000 wells were burnt out, and refining and pumping plant to the value of 400,000,000 lei (in normal exchange 25.22 lei = £1 sterling) was destroyed. The difficulties of reconstruction in this industry are enormous. All Central Europe from which material and workmen could be drawn has been in the throes of terrible distress. In addition lack of rolling stock and insufficient means of transportation generally (the pipe line to Constantza has been out of operation) have made it impossible to get that which has been produced to the coast for export. Not only has the amount for export been limited but the amount needed for home consumption has not been forthcoming. This is the more serious as up to now the railways and the manufactures (which are as yet in their infancy) have used oil as fuel. Now it is proposed to substitute coal for the railroads, while the natural gas that is being worked will probably supplement oil in the factories.

Natural gas is found in the basin of Transylvania in the basin of the upper Mures (Maros), east of Turda. It occurs at an average depth of 250 meters and at a pressure which allows the use of pipe lines, of which there are three. In November, 1922, there were already as many as 40 borings.

The calorific value of the natural gas that can be produced each year in Transylvania is greater than that of the coal produced in the whole of Rumania in a year. The cost of securing the gas is one tenth that of securing coal, and its transportation is easier. Engines made for coal fuel can be readily adapted to the use of gas. It seems probable, then, that

¹⁶ *Correspondence Économique*, Fourth Year, No. 13, June, 1922, Bucharest, p. 24.

¹⁷ L. Mrazec: *Compte Rendu Congrès Internatl. du Pétrole*, 1907.

there may be a change in the manufacturing centers of the country. At any rate here is another powerful ally for industry in Rumania.

Old Rumania was lacking in the elements which most favor the development of manufactures, that is coal and iron; but the new boundaries include the coal fields and iron mines of Transylvania and the Banat. The coal fields with the lignite workings in the foothills of Old Rumania give about 4,000,000 tons of coal—not a great quantity but sufficient to reduce in considerable measure the costs of importation. Besides the useful if not extensive deposits of iron ore there are established metallurgical industries in Huniedoara (Transylvania) and Reshitsa-Anina (Banat). In the Bihar is an ancient gold-mining industry with deposits reputed to be the richest in Europe next to those of the Urals. The Transylvanian salt deposits

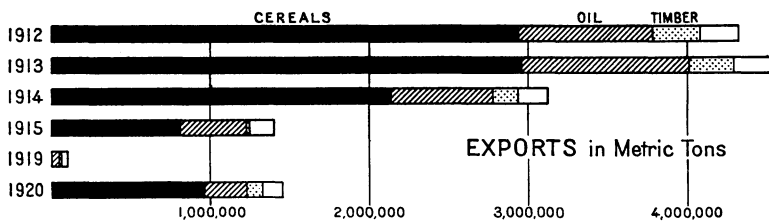


FIG. 16—Diagram showing the annual exports of Rumania by weight.

similar to those on the eastern side of the Carpathians double the already excellent resources of the Old Kingdom in this mineral. Mention may also be made of the large deposits of mica discovered in 1918 in the foothills of Wallachia.

COMMERCE

From the foregoing it is evident that Rumania is well equipped with the materials that go to build up commerce. The products of the natural regions are sufficiently varied to encourage domestic trade, while certain raw materials are produced in excess and can be exported in exchange for manufactured goods. Analysis of the commercial status of the new Rumania, however, is not easy. The Old Kingdom before the war showed a satisfactory development which we shall first examine.

The most striking feature of the Rumanian export trade is the preponderance of agricultural produce.¹⁸ In 1913 grain formed two-thirds of the total value. During the period 1909–1914 Rumania ranked fifth among the wheat-exporting countries of the world and second in the exportation of maize. Oil is next in importance, at its period of maximum development accounting for one-sixth of the total value. The only other item on the list worth separate mention is lumber, amounting in 1913 to one-eighteenth of the total value.

¹⁸ See Clive Day: *The Pre-War Commerce and the Commercial Approaches of the Balkan Peninsula*, *Geogr. Rev.*, Vol. 9, 1920, pp. 277–298. The last really normal commercial year for the Balkan countries and Rumania is 1911—i. e. before the Balkan Wars.

The most striking feature of the import trade is the preponderance of manufactured goods, which in 1913 composed five-sixths of the total value. A hopeful sign for the industrial future of the country is the prominence of metal goods and machinery, which together constituted over one-third of the total. Another important group is that of the textiles, in which cotton yarn and cloth are the outstanding items, the luxury products such as linen and silk being bought in relatively small quantities. There is only a small proportion of food luxuries—sugar, coffee, and tea—and an exceedingly small importation of raw materials. Rumania is still essentially a peasant state, and the peasant needs serviceable clothes and agricultural equipment but has neither taste nor money for foreign food or clothes. Petroleum exploitation explains a good deal of the importation under the classification of metal goods and machinery, which are also required by the mines and the growing industries; but the manufactures for the most part find their raw material in Rumania itself.

EFFECTS OF THE WAR ON RUMANIA'S COMMERCE

Figure 16 also shows the beginnings of the post-war recovery. Although there has been a continued gain since 1919, direct and indirect results of the war still render conditions abnormal. War losses are still felt: above all, the loss of draft animals and agricultural equipment, the loss of rolling stock on the railroads, and destruction of the permanent way. As has already been pointed out, land distribution has had the immediate effect of lessening production. The state of exchange has reduced the purchasing power of the country; and, in addition, the acquisition of the new territories has created a currency problem "more easily imagined than described."¹⁹ Old currents of trade have been disturbed by the erection of new frontiers. An instance is given by Professor de Martonne who describes a paradoxical situation in Transylvania, which is "too rich" in some of its resources. Closing of the Hungarian frontier and difficulty of transportation to Old Rumania have brought about such surplus of cattle that they are sold on the spot at very low prices.²⁰

The export trade of Rumania has always been subject to fluctuations following the character of the harvest. In 1920 and 1921 Rumania, in common with other countries of eastern and southeastern Europe, suffered from drought; and export of wheat was forbidden by the government. Again, the reduction of petroleum exports is due not only to general conditions in the industry but to increased domestic demands. It is estimated that the addition of territory will call for a total domestic consumption of 70 per cent of production.

¹⁹ Alexander Adams: Report on Economic Conditions in Roumania, April, 1921, Dept. of Overseas Trade, London, 1921, p. 24.

²⁰ Emmanuel de Martonne: La Transylvanie, *Bull. Soc. de Géogr. de Lille*, Vol. 64, 1922, pp. 93-102; reference on p. 98.

CURRENTS OF TRADE

Before the war about three-fifths of Rumania's imports came from Austria-Hungary and Germany and about a quarter from the other industrial countries of western Europe (Great Britain, France, Belgium, and Holland). Of the exports only one-eighth went to the former group; two-thirds went to the countries of the latter group, and of them Belgium took more than half, Antwerp acting as an entrepôt for further distribution. Germany and Austria are now far less favorably situated for trade with Rumania. Where Germany formerly held a privileged position she now faces the customs barriers of the new Slav states. Austria has lost her chief industrial districts to one of these states. In this connection note may be made of the importance of the commercial treaties recently concluded by Rumania with Czecho-Slovakia and Poland.

Professor Day in his study of Balkan commerce²¹ pointed out that a surprising proportion of trade between Austria-Hungary and Germany and Rumania was carried on by rail (see the accompanying table).

TABLE I—TRADE OF RUMANIA, 1912

	WITH GERMANY			WITH AUSTRIA-HUNGARY		
	Rail	River	Sea	Rail	River	Sea
Exports	5%	5%	90%	87%	5%	8%
Imports	52%	2%	46%	92%	7%	1%

Chaotic conditions of land transport as well as political considerations are likely to cause a diminution in these former trade currents. On the contrary, trade by river and sea is likely to gain. In the Danube Rumania possesses an important commercial artery susceptible of greatly increased utilization. Trade on the Danube has suffered both from political discrimination and physical disabilities.²² In the past it was hindered by the tariff imposed by Austria-Hungary to encourage the port of Trieste. Improvement of the waterway is needed particularly in the Iron Gates section, a matter in which Rumania is now still more interested because of the extension of her riparian territory. She will seek to divert exports from the Banat downstream from the former course upstream to Budapest.

In Old Rumania traffic on the Danube, which increased steadily downstream from Turnu Severin, was principally in grain. Sixty per cent of the grain was shipped from Sulina at the mouth of the channel regulated by the Danube Commission. Since 1920, however, the tendency has been to ship more grain from Briăla, which like Galatz is not only a shipping town but also a collecting center. Constantza also shares in the grain trade and is the petroleum port with a special petroleum basin, storage tanks, and pipe lines that formerly crossed the Danube by the Cernavoda bridge. This

²¹ See footnote 18.

²² Cf. the note on "The Danube as a Waterway" elsewhere in this number of the *Review*.

famous bridge, destroyed during the war and reopened in 1922, also gives Constantza rail connection with the trunk line running west through Bucharest and north through Buzeu to Cernowitz. While the Danube ports are usually ice-bound during the winter, Constantza has the advantage of being open throughout the entire year.

The new territories are better equipped with railroads than the old kingdom except in the case of Bessarabia, where particular difficulty has been experienced in grain shipment. The lines here were of different gauge and tended to converge on Odessa but normalization of gauge and building of new lines is in progress. Nor has it been possible to take full advantage of the rivers, Pruth and Dniester, which like all the other Rumanian waterways are suffering from lack of equipment lost during the war.

With the rehabilitation of waterways and railroads Rumania's commerce cannot fail to develop. She occupies a geographical position highly favorable for international trade, lying contiguous to the crossroad between western Europe and the Near East and the Russian lands and the Mediterranean.

THE POPULATION

In considering the future of Rumania two aspects of the human element call for special mention here, the problem of education and that of the alien population.

While the new Rumania probably includes a somewhat greater proportion of urban population, the vast majority still remains rural. Out of 16 to 17 millions,²³ more than 14 millions are villagers; and of the town dwellers only about half are engaged in manufacturing and mining. When one reflects that the Rumanian peasants are poorly educated and in general ignorant of modern methods of farming and that they have in their hands the greatest asset of the country, the importance of their education is seen to be immense. Another problem in education is presented by the growth of the state in industry and commerce. The present exploitation of oil and other minerals is largely carried on by foreigners—an unsatisfactory condition for national progress. Promise of improvement in this direction, however, is given by the opportunities now offered by the universities (Bucharest, Jassy, Cluj, Cernowitz) and the technical institutes. The proposed budget shows that the Rumanian government is seriously occupied with the problem of national education.²⁴

The physical complexity of this country at the meeting point of Balkans, Central Europe, and the Russian plains has had a bearing on the present state of ethnic complexity.²⁵ Surrounding the solid Rumanian block of the

²³ The *Bul. Soc. Reg. Române de Geogr.*, Vol. 39, 1920, p. 381, gives the population of Rumania as 16,262,000 distributed thus: Old Kingdom, 7,897,000; Bessarabia, 2,345,000; Bukovina, 812,000; Transylvania, 2,686,000; Crishana, 1,145,000; Maramuresh, 467,000; Banat, 910,000.

²⁴ Aristide Blank: The Public Finances of Rumania, "*Manchester Guardian Commercial*," *Reconstruction in Europe*, 1922-23, pp. 292-295.

²⁵ For a study of the ethnic composition of the new Rumania see Emmanuel de Martonne: *Essai de carte ethnographique des pays Roumains*, *Ann. de Géogr.*, Vol. 29, 1920, pp. 81-98, and also the article of the same author cited in footnote 1.

Old Kingdom is a belt of largely mixed population. Poles, Ruthenians, Little Russians, Tatars, Turks, Greeks, Bulgars, Serbs, Slovaks, Hungarians appear in succession and overlapping as one goes round the circle. The Hungarians known as Szeklers form a solid group in the heart of Transylvania, and Germans are widely distributed throughout the mixed zone; Jews are most numerous in the northern part of the country and in the towns. The alien element amounts to between 20 and 25 per cent of the population of the entire country. From this point of view Rumania has on her hands a more complex minorities problem than any other European state, and her treatment of the matter may be looked upon as a test case of the form of treaty devised for its solution.