

and 9300 in the Maritime Province; but in 1877 the total export from the former did not exceed in value £1700 to £2000.

The same falling-off is observable in the fisheries,—one species at least, the *Rhynchostictus*, having completely disappeared within the 19th century. Fishing is still a valuable source of income on the lower courses of the great rivers, especially the Ob, where the yearly earnings amount to about £30,000. The fisheries on Lake Baikal supply cheap food (the *omul*) to the poorer classes of Irkutsk and Transbaikalia. The native populations of the Amur—Golds and Ghilyaks—support themselves chiefly by their fisheries, when the salmon enters in dense masses the Amur and its tributaries.

Though Siberia has within itself all the raw produce necessary for prosperous industries, it continues to import from Russia without exception all the manufactured articles it uses. Owing to the distances over which they are carried and the bad organization of trade, all manufactured articles are exceedingly dear, especially in the east. The manufactories of Siberia employ less than 15,000 workmen, and their aggregate production does not exceed £1,600,000 in value; of these 11,500 are employed in Western Siberia, the yearly production being about £1,200,000. Nearly one-third of the total represents wine-spirit, 23 per cent. tanneries, 18 per cent. tallow-melting, and a considerable sum cigarette-making. The villages of Siberia do not carry on a variety of petty trades like the villages in Russia, except in the districts of Tobolsk nearest the Urals, where tanning, boot-making, carpet-making, and the like are prosecuted.

Mining is in the same backward state as manufacturing industry. The chief attention is given to gold-mining. But the use of improved machinery is far from common, and the condition of the workmen wretchedly bad,—insufficient food, bad lodgings, and overwork under the most unsanitary conditions. As the geology of the gold-mining districts is quite unknown, immense sums are sunk in futile search. The amount of gold obtained has much increased since mining was begun in the Nerchinsk district and parts of the Altai (a right formerly reserved for the imperial Government), and since the discovery of auriferous deposits in the basin of the Amur and in the Maritime Province. It reached in 1882 4563 lb in Western Siberia (nearly all in the Altai), and 58,420 lb in Eastern Siberia (about 27,000 in Yakutsk, more than 10,000 in Nerchinsk, and about 8000 in the province of Amur). The Altai mines (12,000 workmen) yielded in 1881 16,670 lb of silver (13,310 in 1882), 13,140 cwts. of lead, 6700 of copper (the last two decreasing items), 3200 of iron, 240,000 of coal, and about 320,000 of salt. Silver-mining is almost entirely abandoned in Nerchinsk, and in 1882 only 1900 lb were extracted.

Trade is in the hands of a few merchants. The chief market is the Nijni-Novgorod fair, where Siberian merchants get twelve or eighteen months' credit at correspondingly high rates.<sup>1</sup> Prices on the Amur are not more favourable, since the trade by sea is prevented from developing owing to the facility with which great profits are made by the exchange of wine-spirit and furs for whisky. The villages are in a still worse condition, whole populations being dependent for the necessities of life upon a few merchants. The foreign trade is insignificant, and the hundred merchant ships (thirty English) which visited the port of Vladivostok in 1883 came chiefly for the needs of the garrison. The imports of manufactured wares from Russia amount to an annual value of £12,000,000; the corresponding exports of raw produce are only about £4,000,000,—tallow, hides, furs, and grain being the chief items. There are several great fairs in Siberia, that of Irbit (with an annual turnover of £5,000,000 to £7,000,000) being the most important. Those of Ishim, Tomsk, Irkutsk, and Verkhne-Udinsk deserve mention. In the north and north-east several fairs, where natives gather to pay tribute, to sell furs, and to purchase food and necessaries for hunting, have a local importance.

The main line of communication is the great Moscow road. It starts from Perm on the Kama, and, crossing the Urals, reaches Ekaterinburg—the centre of mining industry—and Tyumen on the Tara, whence steamers ply via Tobolsk to Tomsk. A railway has of late been constructed between Perm and Ekaterinburg, touching the chief ironworks of the eastern slope of the middle Urals, and has been continued via Kamyshtoff to Tyumen. From Tyumen the Moscow road proceeds to Omsk, Tomsk, Krasnoyarsk, and Irkutsk, sending off from Kotyvañ a branch south to Barnaut in the Altai and to Turkestan. From Irkutsk it proceeds to Transbaikalia, and Lake Baikal is crossed either by steamer or (when frozen) on sledges, in either case from Listvenitchnaya to Posolskoye. A route was laid out about 1863 round the south shore of Lake Baikal in order to maintain communications with Transbaikalia during the spring and autumn, which were frequently interrupted when the old route from Selenghinsk across the Khamar-daban had to be resorted to. From Posolskoye on Lake Baikal the great road proceeds to Verkhne-udinsk, Teliita, and Sryetensk on the

<sup>1</sup> Salt in the Altai region (where it is obtained) is retailed at 2 roubles 40 copecks the pud (46 lbs for 32 lb); sugar, which is sold at 7 to 8 roubles the pud in Western Siberia (14s. to 16s. the 32 lb), reaches 12 to 20 roubles in Transbaikalia, and occasionally 40 roubles at Yakutsk.

Shilka, whence steamers ply to the mouth of the Amur and up the Usuri and Sungatcha to Lake Khangka. When the rivers are frozen communication is maintained by sledges on the Amur; but in spring and autumn the only continuous route down the Shilka and the Amur, to its mouth, is on horseback along a mountain path (very difficult across the Bureya range). On the lower Amur and on the Usuri the journey is also difficult even on horseback. On the whole the steamer communication is in an unsatisfactory state, and when the water on the upper Amur is low vessels are sometimes unable to reach the Shilka. The Yenisei is navigated as far as Minusinsk, and communication is maintained along its banks in the summer by boat and horse. The Angara offers great difficulties to navigation on account of its rapids; regular water communication begins only below these and is continued to its mouth. On the Lena, which is an important waterway from Kirensk, merchandise is shipped for the gold-mining companies on the Lena below the Vitim, and sometimes up the lower Vitim. Another route of importance before the conquest of the Amur is that which connects Yakutsk with Okhotsk or Ayan. Regular postal communication is maintained by the Russians between Kiachta and Kalgan (close by Peking) across the desert of Gobi. Owing to the relatively good condition of the great highway the journey to Siberia is not so difficult or formidable as is generally supposed. As a rule the Siberians travel freely, and long journeys are undertaken more readily than short railway journeys are in Europe.

Siberia has been colonized in two different ways. On the one hand, the Government sent parties (1) of Cossacks to settle on the frontiers, (2) of peasants who were bound to settle at appointed places and maintain the communications along the routes, (3) of *stryelstsy* to garrison forts, (4) of *yamschiks*—a special organization of Old Russia entrusted with the maintenance of horses for postal communication, and finally (5) of convicts. Even so recently as 1856-57 a good deal of the Amur region was peopled in this way. Serfs in the imperial mines were liberated and organized in Cossack regiments (the Transbaikalia Cossacks); some of them were settled on the Amur, forming the Amur and Usuri Cossacks. Other parts of the river were colonized by peasants who emigrated with Government aid, and were bound to settle in villages, about 20 miles apart, on the Amur, at spots designated by officials. As a rule, this kind of colonization has not produced the results that were expected. On the other hand, free colonization has been more successful and has been undertaken on a much larger scale. Soon after the first appearance of the Cossacks of Yermak in Siberia, thousands of hunters (*promyshlennye*), attracted by the furs, immigrated from north Russia, explored the country, traced the first footpaths, and erected the first houses in the wilderness. Later on serfdom, religious persecutions, and conscription were the chief causes which led the peasants to make their escape to Siberia and build their villages in the most inaccessible forests, in the prairies, and even on Chinese territory. The severe measures of the Government against such "runaways" could not prevent their immigration to Siberia. While governmental colonization studded Siberia with forts, free colonization filled up the intermediate spaces. This free colonization has continued throughout the 19th century, occasionally assuming larger proportions, as in 1848-55. Since the emancipation of the serfs it has been steadily increasing. In spite of the involved formalities which the peasants have to go through before emigrating, and the great expense, whole villages emigrate from Russia to Siberia. During the twenty-five years ending 1879 no fewer than 100,000 persons crossed the Urals; and in 1882 the Ural Railway conveyed 7025 emigrants, while the total number of emigrants to Siberia in the same year was estimated at not less than 40,000.<sup>2</sup>

Siberia is a great penal colony. Exile to Siberia began in the first years of its discovery, and as early as 1658 we find the Nonconformist priest Avvakum<sup>3</sup> following in chains the exploring party of Pashkoff on the Amur. Raskolniks in the second half of the 17th century, rebel *stryelstsy* under Peter I., courtiers of rank during the reign of the empresses, Polish confederates under Catherine II., the "Decembrists" under Nicholas I., nearly 50,000 Poles after the insurrection of 1863, and later on whole generations of socialists were sent to Siberia; while the number of common-law convicts and exiles transported thither has steadily increased since the end of the 18th century. No exact statistics of Siberian exile were kept before 1823. But it is known that in the first years of the 19th century nearly 2000 persons were transported every year to Siberia. This figure had reached an average of 18,250 in 1873-77 and rose above 20,000 in 1882. Between 1823 and 1877 the total was 393,914,<sup>4</sup> to which ought to be added the families of many exiles, making more than 600,000 men, women, and children transported since the beginning of the 19th century. Of 151,684 transported during the ten years 1867-76 18,582 were

<sup>2</sup> Yadrintseff, *Siberia as a Colony*; Levitoff, *Guide to West Siberia* (Russian); *Russkaya Mysl*, July 1882.

<sup>3</sup> The autobiography of the protopope Avvakum is one of the most popular books with Russian Nonconformists.

<sup>4</sup> The Poles are not reckoned in the above figure.

condemned to hard labour, 23,382 to be settled with loss of civil rights (*ssylno-poselentsy*), 23,383 to be settled without loss of rights (*via rodovoye*), 2551 to live nearly free (*na jilte*), while 78,636 were transported simply by orders of the administration or decisions of the village communities. In 1884 21,104 exiles, followed by 1752 women and 3631 children, were transported to Siberia. Their distribution under different heads was nearly the same as the above. The hard-labour convicts (some 1800 or 1900) sent every year are distributed among several prisons in Western and Eastern Siberia, the imperial gold-washings at Kara on the Shilka, and the salt-works of Usolie and Ust-Kut; but, as these prisons and works cannot take more than 10,000 in all, the surplus have to be sent to SAGHALIN (*g.v.*), where they are employed in the coal-mines, or settled. After liberation the hard-labour convicts enter the category of *ssylno-poselentsy*, and are settled in villages. It appears from recent inquiries that nearly all are in a wretched condition, and that of the 200,000 on the official registers more than one-third have disappeared without being accounted for. Nearly 20,000 men (40,000 according to other estimates) are living in Siberia the life of *brodyaghi*, trying to make their way through the forests to their native provinces in Russia. The exile population of Siberia is much smaller than is generally supposed, being—in Tobolsk, 59,000, 4.6 per cent. of population; in Tomsk, 29,800, 2.6; in Yeniseisk, 45,000, 10.6; in Irkutsk, 40,000, 10; in Transbaikalia, 21,335, 4.3; in Yakutsk, 3000, 1.2; total, 198,153 or 4.9 per cent.

Education stands at a very low level. The chief town of every province is provided with a classical gymnasium, where the sons of the local officials prepare for the university, and a gymnasium or progymnasium for girls; but the education there received is not of a high grade, and the desire of the local population for "real schools" is not satisfied. The sum of £10,000 bequeathed by Demidoff in 1817 for the foundation of a university in Siberia, together with an additional £40,000 raised by subscription, remains unemployed, and, although the Government finally permitted the erection of buildings for a university at Tomsk, it again decided (1885), for political reasons, to postpone its opening. In 1883 there were in Western Siberia only 534 schools of all descriptions, with 14,097 male and 4915 female pupils. Transbaikalia had in 1881 108 schools of a very inferior kind, with 3823 pupils; Yakutsk, 23 schools, with 633 pupils in 1882. There are in all five gymnasias and five progymnasias for boys, three gymnasias and two progymnasias for girls, two "real schools," and three normal schools; but many vacant teaching posts in gymnasias remain unoccupied. Primary education is in a very unsatisfactory state, and primary schools very scarce.

Siberia is divided into four governments,—Tobolsk, Tomsk, Yeniseisk, and Irkutsk,—and four provinces,—Yakutsk, Transbaikalia, Amur, and Maritime or Primorskaya. The first two are under governors, like Russian governments; the next four are under the governor-general of Eastern Siberia, who resides at Irkutsk; the Amur and Maritime provinces are under the governor-general of the Amur, who resides at Khabarovka, at the junction of the Amur and the Usuri. The respective chief towns are—Tobolsk, Tomsk, Krasnoyarsk, Irkutsk, Yakutsk, Tchita, Blagoveshchensk, and Khabarovka. The provinces of Akmolynsk (chief town, Akmolyn) and Semiryetcheusk (chief town, Yvernyi) are now parts of the steppe governor-generalship. Each government and province is subdivided into districts; the administrative head is a civil governor in the governments and a military governor in the provinces. By the regulations of 1834 each governor and governor-general is assisted by a council composed of chiefs of several departments (nominated by the governor-general), and several officials depending directly upon the respective ministries. The council has only a consultative voice, the final decision resting with the administrative head. The governors-general and military governors command the military forces of the provinces,—Cossacks and regulars. The new system of legal procedure introduced in Russia in 1866 has not yet been extended to Eastern Siberia, where the old courts are still in force. It has been introduced in Western Siberia, but without effect. The towns have received the new municipal organization. The *zemstvo* is not yet organized. The districts are under the control of *ispravniks* and *zasedatels*, who have very extensive powers, and are not controlled by self-government of the peasantry. The Cossacks—the Siberian on the Kirghiz frontier (90,000 persons, stretching in villages along a line of 1200 miles), the Transbaikalian, and those of the Amur and the Usuri, whose villages are dotted along the Amur to its junction with the Usuri and along the Usuri to Lake Khangka and Vladivostok—are under their own officers, and special administrative functions are entrusted to the military chief (*ataman*) of each separate Cossack *voisko*. The Altai and Nerchinsk mines, with their territories and populations, are under the imperial cabinet,—all private mines being under the inspection of mining engineers.

Since the earliest years of conquest Siberia has been placed under the rule of *voivodes* (governors), under a special department at Moscow. In 1708 it was divided into five provinces, depending upon a governor residing at Tobolsk. Catherine II. introduced in

1764 a vice-royalty, which existed, however, only until 1799, when governors and governors-general were introduced. This system prevailed until 1819. This part of the history of Siberia was an unbroken record of robbery, tyranny, and folly on the part of the governors and *ispravniks*, such as would seem incredible were the facts not testified to by the annals and documents recently published in Russia. In vain were the severest measures resorted to. Peter I. ordered the governor Prince Gagarin to be hanged, and the governor Joloboff was executed in 1736, while many minor officials were condemned to hard labour or the knout. The robberies and the cruelties of rulers like Kryloff, Pestel, Treskin, Loskutoff, and their myrmidons compelled the Government to undertake a thorough inquiry, and for this purpose Speranskiy was sent in 1819. To him Siberia is indebted for the new system of administration which has since remained in force.

The chief towns of Siberia are—Ekaterinburg (25,150 inhabitants; which belongs, however, to Perm, although situated on the eastern slope of the Urals; Tomsk (31,550), a commercial city, selected as the site of the university; and Irkutsk (36,120 in January 1884), capital of Eastern Siberia, a trading city. Tobolsk (20,130), Krasnoyarsk (16,800), Tchita (12,600), Blagovyeschensk (80%), and Khabarovka (2500) are mere administrative centres. Biysk in Tomsk (18,700) yearly acquires more importance from its trade with the Kirghiz steppe. Kurgan (8915) and Yafutorovsk (4500) in Tobolsk are large villages, dependent chiefly on agriculture and some trade. Barnaut (17,350), Kotyvañ (12,450), Kuznetsk (7355), Zmeinogorsk (6160), and Zyrianovsk (4450) in the Altai are mining centres; Barnaut is the seat of the mining administration. Tyumen (14,300) and Tara (8650) in Tobolsk, Mariinsk in Tomsk, Kainsk (8050) and Minusinsk (7400) in Yeniseisk, Kiachta (4300), Verkhne-udinsk (4150), and Nerchinsk (4070) in Transbaikalia, may be mentioned as local commercial centres—Kiachta having once had great importance in the tea-trade with China. The others are merely administrative centres. Towns like Obdorsk, Berezhoff, Narym, Viliusk, Verkhoyansk, Okhotsk, and many others which figure on the maps are merely administrative centres for levying the *yasak*, each with less than 1000 or even fewer than 500 and 300 inhabitants. Of the fifty-three towns of Western and Eastern Siberia only two have more than 30,000 and eight from 12,000 to 21,000 inhabitants each; in ten towns the population ranges from 5000 to 10,000.

The shores of all the lakes which filled the depressions during the Lacustrine period are covered with remains dating from the Neolithic Stone period; and numberless *kurgans* (tumuli), ovens, and so on bear witness to a much denser population than the present. During the great migrations in Asia from east to west many populations were probably driven to the northern borders of the great plateau and thence compelled to descend into Siberia; succeeding waves of immigration drove them still farther towards the barren grounds of the north, where they melted away. According to Radloff, the earliest inhabitants of Siberia were the Yeniseians, who spoke a language different from the Ural-Altai; some few traces of them (Yeniseians, Sayan-Ostiaks, and Kottes) have been found among the Sayan Mountains. The Yeniseians were followed by the Ugro-Samoyedes, who also came originally from the high plateau and were compelled, probably during the great migration of the Huns in the 3d century B.C., to cross the Altai and Sayan ranges and to enter Siberia. To them must be assigned the very numerous remains dating from the Bronze period which are scattered all over south Siberia. Iron was unknown to them; but they excelled in bronze, silver, and gold work. Their bronze ornaments and implements, often polished, evince a great development of artistic taste; and their irrigated fields covered wide areas in the fertile tracts. On the whole, their civilization stood much higher than that of their more recent successors. Eight centuries later the Turkish stocks of "Tukiu" (in Chinese spelling), Khagasses, and Uigurs—also compelled to migrate north-westwards from their former seats—subdued the Ugro-Samoyedes. These new invaders have likewise left numerous traces of their sojourn, and two different periods may be easily distinguished in their remains. They were acquainted with iron, and learned from their subjects the art of bronze-casting, which they used for decorative purposes only, and to which they gave a still higher artistic stamp. Their pottery is also much more perfect and more artistic than that of the Bronze period, and their ornaments now have a place among the finest collections at the St Petersburg Hermitage. This Turkish empire of the Khagasses must have lasted until the 13th century, when the Mongols, under Jenghiz Khan, subdued them and destroyed their civilization. A decided decline is shown by the graves which have been discovered, until the country reached the low level at which it was found by the Russians on their arrival towards the close of the 16th century. In the beginning of the 16th century Tatar fugitives from Turkestan subdued the loosely associated tribes inhabiting the lowlands to the east of the Urals. Agriculturists, tanners, merchants, and mollahs (priests) were called from Turkestan, and small principalities sprang up on the Irish and the Ob. These were united by Khan Ediger, and conflicts with the Russians



who were then colonizing the Ural brought him into collision with Moscow; his envoys came to Moscow in 1555 and consented to a yearly tribute of a thousand sables. This source of wealth attracted Russian adventurers to the trans-Ural regions. As early as the 11th century the Novgorodians had occasionally penetrated into Siberia; but the fall of the republic and the loss of its north-eastern dependencies checked the advance of the Russians across the Urals. On the defeat of Stepan Razin many who were unwilling to submit to the iron rule of Moscow made their way to the settlements of Stroganoff in Perm, and tradition has it that, in order to get rid of his guests, Stroganoff suggested to their chief, Yermak, that he should cross the Urals into Siberia, promising to help him in this enterprise with supplies of food and arms. Yermak entered Siberia in 1580 with a band of 1636 men, following the Taghil and Tura rivers. Next year they were on the Tobol, and 500 men successfully laid siege to Isker, the residence of Khan Kutchum, in the neighbourhood of what is now Tobolsk. Kutchum fled to the steppes, abandoning his domains to Yermak, who, according to tradition, purchased by the present of Siberia to Ivan IV. his own restoration to favour. Yermak was drowned in the Irtysh in 1584, after having been defeated by the Tatars. After his death the Cossacks abandoned Siberia; but new bands of hunters and adventurers, attracted by the furs, poured every year into the country, and were supported by regular troops from Moscow. To avoid conflicts with denser populations in the south, they preferred to advance eastwards along higher latitudes; meanwhile Moscow sent fresh detachments of troops under *voivodes*, who erected forts and settled labourers around them to supply the garrisons with food, gunpowder, and arms. Within eighty years the Russians had reached the Amur and the Pacific. This rapid conquest is accounted for by the circumstance that they met with no organized resistance: they found only the Tatar Kutchum on the Tobol, and in the Altai the Turkish stocks under the Kalmuck Altyn Khan, the centre of whose power was on the Kemtchik, and who collected tribute from the Teleuts, Uryankhs, Telesses, Beltirs, Buruts (Kirghiz), and other smaller tribes. Neither Tatars nor Turks could offer any serious resistance. When travelling down the Yenisei in 1607-10 the Cossacks first encountered Tunguses, who strenuously fought for their independence, but were at last subdued about 1623. In 1628 the Russians reached the Lena, founded the fort of Yakutsk in 1637, and two years later reached the Sea of Okhotsk at the mouth of the Uliu river. The Buriats offered some opposition, but between 1631 and 1641 the Cossacks erected several palisaded forts in their territory, and in 1648 the fort on the upper Uda (Verkhe-Udinskiy Ostrog) beyond Lake Baikal. In 1643 Poyarkoff's boats descended the Amur, returning to Yakutsk by the Sea of Okhotsk and the Aldan, and in 1649-50 Khabaroff occupied the course of the Amur. The resistance of the Chinese, however, obliged the Cossacks to quit their forts, and by the treaty of Nerchinsk (1689) Russia abandoned her advance into the basin of the river. In her anxiety to keep peace with China and not to endanger the Kiachta trade, Russia rigorously prohibited and punished all attempts of the Siberians to advance farther towards that river until 1855. In 1849 the Russian ship "Baikal" discovered the estuary of the Amur; in 1851 the military post of Nikolaievskiy was established at its mouth, and two years later the post of Mariinsk near Lake Kizi. Next year a Russian military expedition under Muravioff explored the Amur, and in 1857 a chain of Russian Cossacks and peasants had already settled along the whole course of the river. The accomplished fact was recognized by China in 1857 and 1860 by a treaty. In the same year in which Khabaroff explored the Amur (1648) the Cossack Dejneff, starting from the Kolyma, sailed round the north-eastern extremity of Asia through the strait which was rediscovered and described eighty years later by Behring (1728). Cook in 1778, and after him La Pérouse, settled definitively the broad features of the northern Pacific coast. Although the Arctic Ocean had been reached as early as the first half of the 17th century, the exploration of its coasts by a series of expeditions under Ovtzyn, Minin, Pronchichsheff, Lasinius, and Lapteff—whose labours constitute a brilliant page in the annals of geographical discovery—was begun only in the 18th century (1735-39).

The scientific exploration of Siberia begun in the period 1733 to 1742 by Messerschmidt, Gmelin, and De Lisle de la Croyère was soon followed up by Müller, Fischer, and Georgi, with several Russian students, laid the first foundation of a thorough exploration of the topography, fauna, flora, and inhabitants of the country. The journeys of Hansteen and Erman (1828-33) were a most important new step in the exploration of the territory. Humboldt, Ehrenberg, and Gustav Rose also paid in the course of these years short visits to Siberia, and gave a new impulse to the accumulation of scientific knowledge; while Ritter elaborated in his *Asien* the true foundations of a sound knowledge of the structure of Siberia. Middendorff's journey (1841-43) to north-eastern Siberia—contemporaneous with Castrén's journeys for the special study of the Ural-Altaian languages—directed attention to the far north and awakened interest in the Amur, whose basin soon became the scene of the

expeditions of Akhte and Schwarz (1852), and later on (1854-57) of the great Siberian expedition to which we owe so marked an advance in our knowledge of Eastern Siberia. The Siberian branch of the Russian Geographical Society was founded at the same time at Irkutsk, and afterwards became a permanent centre for the exploration of Siberia; while the opening of the Amur and Saghalin attracted Maack, Schmidt, Glehn, Radde, and Schrenck, whose works on the flora, fauna, and inhabitants of Siberia have become widely known.

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(a most valuable source of information, with full bibliographical details under each article); Elisée Reclus, *Géographie Universelle*, vol. vi., "L'Asie Russe," also Russian translation with appendices; Yadrintseff, *Siberia as a Colony* (Russ.), 1882; *Picturesque Russia* (Russ.), ed. by P. Semenov, vol. xi. (Western Siberia) and xii. (Eastern Siberia); *Chronology of Sib. Hist. from 1022 to 1882*; Levitoff, *Guide to West Siberia* (Russ.), 1883; Suvorin, *Russkii Kalendar* (for some statistics). The following periodicals contain important information: *Syevernyi Archiv*, 1825; *Sibirskiy Vestnik*, 1818 sq.; *Magasin Asiatique*, 1825; *Mélanges Asiatiques* and *Mél. Physiques tirés du Bull. de l'Acad. d. Sc. de St. Pétersburg*; *Asiatick Researches*, the publications of the St. Petersburg Botanical Garden, and of the general staff; Bar and Helmersen, *Beiträge*; *Erman Archiv; Historical Acts*, 1816, and *Addenda*, 1846-75, official publications (Russ.); *Vestnik, Zapiski*, and *Izvestia* of the Russian Geographical Society; *Zapiski and Izvestia* of the Eastern and Western Siberian branches of the same; *Bulletin de la Soc. des Natur. de Moscou*; *Izvestia of the Society of Friends of Natural Sciences at Moscow*; *Annals of the Society of the Ural and St. Petersburg Society of Naturalists*; *Mining Journal* of St. Petersburg; *Verhandl. der Minner. Ges. zu St. Petersburg*; *Meteorologischer Jahrbuch* and *Annales* of the Central Physical Observatory; *Drevnyaya i Novaya Rossiya*; the medical and topographical *Sbornik*, the *Sbornik Sudebnoi Mediciny*, and "The Health" (*Zdorovie*) contain most valuable contributions to the demography of Siberia; the newspapers *Amur, Vostochnoe Obozreniie*, and especially *Sibir*, now published at Irkutsk; *Russische Revue; Priroda*, a popular review containing valuable information about hunting; *Pamyatnyia Knijki* (almanacs) of separate governments. The official publication of the ministry of navy, *Morskoi Sbornik*, contains many important contributions to the geography of Siberia, as also, occasionally, the *Voennyi Sbornik*. Complete indexes by M. Mezhoff are published by the Geographical Society.

(2) *Flora and Fauna.*—Besides the works of Gmelin, Georgi, Pallas, Ledebour, Middendorff, Maack, Schrenck, Radde, Schmidt, Glehn, and Maximowicz, see a large number of monographs by Schmidt, Regel, Trautvetter, Herder, Brandt, Polyakoff, Martynoff, Baidischeff, and many others scattered through the publications of the Academy of Sciences, the St. Petersburg Botanical Garden, the Society of Naturalists of Moscow, the Society of Friends of Natural Sciences of Moscow, and the Geographical Societies of St. Petersburg and Irkutsk. Several of them are complete *florulae* of separate regions, or important monographs of separate classes of the vegetable or animal kingdom, or lists of plants and animals collected during separate journeys; see also Tacanowski's lists of birds in *Bull. de la Soc. Zool. de France*, 1882. Mezhoff's *Bibliographical Indexes*, yearly published by the Geographical Society, and the *Indexes of the Kiev Society of Naturalists* give full details.

(3) *Geology.*—Geological observations occur in nearly all the above-mentioned works of travel and serial publications. Of recent monographs the following, published in periodical publications, may be mentioned:—Meglitzky, in *Verh. der Miner. Ges. zu St. Petersburg*, 1856; Schmidt, "Mammuth Reise," in *Mém. of St. Petersburg Ac.*; Lopatin, on the Vitim, Yenisei, and Krasnoyarsk, in *Mining Journal* and serials of the St. Petersburg and East Siberian Geographical Society; Czekanowski, in *Mém. Ac. of Sciences*; Czernik (map of shores of Baikal), in *Izvestia*, East Siberian Geographical Society, and several papers, especially on mining districts, in the *Gornyi Journal*.

(4) *Ethnology.*—Sloutsoff, *History of Siberia*; Shashkoff, a series of papers on the "Indigenous Races of Siberia," "The Native Question," "Serfdom in Siberia," "Historical Sketches," in various reviews; Polyakoff, *Journey to the Ob* (translated into German); Schapoff, in various historical works and in

the *Izvestia* of the Siberian Geographical Society; Samokvasoff, *Customary Law of Siberian Indigenes*, 1876; papers in *Otechestvennyia Zapiski*, vols. cxxxix, and cccxlii; Yadrintseff, *Siberia*, 1882. Argentoff and Kostroff in the serials of the Geogr. Soc. give information about the present state of the indigenes and their relations to Russia.

(5) *Exile.*—Maximoff, *Siberia and Hard Labour*, 1871; Foinitzky, *Administration of Exile*, 1879; Vagin, "Historical Documents on Siberia," in the collection *Sibir*, vol. i.; Nikitin, "Prisons and the Prisons Question," in *Russkii Vestnik*, 1878; Mishlo, "On Siberian Prisons," in *Otech. Zapiski*, 1881; Yadrintseff, *Siberia as a Colony*, 1882; Dostolevsky, *Buried Alive*, 1881; Rosen, *Memoiren eines Decabristen*, 1870. (P. A. K.)

SIBSÁGAR, or SEEBSAUGOR, a British district of India, in the upper valley of the province of Assam, lying between 26° 19' and 27° 16' N. lat. and 93° 21' and 95° 25' E. long., and covering an area of 2855 square miles. It is bounded on the N. and E. by Lakhimpur district, on the S. by independent Nágá territory, and on the W. by the Nowgong and Nágá Hills districts. Sibságar consists of a level plain, much overgrown with grass and jungle, and intersected by numerous tributaries of the Brahmaputra. It is divided by the little stream Disai into two tracts, which differ in soil and general appearance. The surface of the eastern portion is very flat, the general level being broken only by the long lines of embankments raised by the Aham kings to serve both as roadways and as a protection against floods. The soil consists of a heavy loam of a whitish colour, which is well adapted for rice cultivation. West of the Disai, though the surface soil is of the same character, the general aspect is diversified by the protrusion of the subsoil, which consists of a stiff clay abounding in iron nodules, and is furrowed by frequent ravines and water-courses, which divide the cultivable fields into innumerable small sunken patches or *holas*. The chief river is the Brahmaputra, which is navigable throughout the year by steamers and large native craft. The navigable tributaries of the Brahmaputra comprise the Dhaneswari, the Burí Diding, the Disang, and the Dikhu, all flowing in a northerly direction from the Nágá Hills. Included within the district is the island of Maguli, which is said to have been formed by the silt brought down by the Subansiri river from the Himálayas and deposited in the wide channel of the Brahmaputra. Coal, iron, petroleum, and salt are found in the district. Wild beasts of all kinds abound, including the elephant, rhinoceros, tiger, buffalo, and deer. The climate, like that of the rest of the Assam valley, is comparatively mild and temperate, and the average annual rainfall is about 94 inches.

In 1881 the population of Sibságar was 370,274 (males 195,194, females 175,080), of whom Hindus numbered 339,663, Mohammedans 15,665, hill tribes 13,829, and Christians 804. The only place of more than 5000 inhabitants is SIBSÁGAR (see below). Of the total area 359,225 acres were under cultivation in 1883-84, besides 78,710 acres of forests. The staple product is rice, which yields two crops in the year; tea is also extensively grown, Sibságar being second only to Cachar among the tea-growing districts of India; other crops include food-grains, pulses, oil-seeds, sugar-cane, and cinchona. The local industries are limited to the weaving of silk and cotton cloth, the making of brass and bell-metal utensils, and coarse pottery. The principal exports are tea, silk, mustard-seed, cotton, and jungle products; the imports include salt, oil, opium, piece-goods, and miscellaneous hardware.

On the decline of the Aham dynasty Sibságar, with the rest of the Assam valley, fell into the hands of the Burmese. They were expelled by the British in 1823, and in the following year the valley was annexed to British India. The British, however, were indisposed to undertake the responsibilities of administration beyond what seemed absolutely necessary. The country now forming Sibságar district, together with the southern portion of Lakhimpur, was placed under the rule of Raja Purandhar Sinh, on his agreeing to pay an annual tribute of £5000. Owing to the raja's misrule, Sibságar was reduced to a state of great poverty, and, as he was unable to pay the annual tribute, the territories were resumed by the Government of India, and in 1838 Sibságar was placed under the direct management of a British officer. The tea industry soon brought back prosperity, and the Sibságar peasants now rank among the most contented and wealthy in Assam.

SIBSÁGAR, chief town and civil headquarters of the above district, is situated about 11 miles south from the

Brahmaputra, being picturesquely placed around a magnificent tank covering an area of 114 acres. Besides the houses of the civil officials, it possesses a straggling bazaar, in which a brisk business is carried on during the cold season with the neighbouring hill tribes. In 1881 the population of the town was 5868.

SIBYL. Certain women who prophesied under the inspiration of a deity were called by the Greeks Sibyls. The inspiration manifested itself outwardly in distorted features, foaming mouth, and frantic gestures. The notion that hysterical, convulsive, and epileptic affections are proof of divine inspiration has been common all over the world (see *Taylor's Primitive Culture*, ii. p. 131 sq.). Homer does not refer to a Sibyl, nor does Herodotus. The first Greek writer, so far as we know, who does so is Heraclitus (flourished about 500 B.C.). As to the number and native countries of the Sibyls much diversity of opinion prevailed, as is evinced by the contradictory statements of ancient writers. Aristophanes, Plato, and the author of the *Θαυμάσια ἀκούσματα*, attributed to Aristotle, appear to know of only one Sibyl. Heraclides Ponticus, a pupil of Plato, seems to be the first writer who distinguished several Sibyls,—the Erythræan, the Phrygian, and the Hellespontine. Later writers speak of two, three, four, eight, ten, and twelve. Pausanias (x. 12) enumerates four. According to him, the oldest was the Libyan<sup>1</sup> Sibyl, a daughter of Zeus and Lamia. The second was Hérophile, a native of Marsepuss or Erythræ in the Troad; she lived mostly in Samos, but visited Clarus, Delos, and Delphi. She lived before the Trojan War, which she is said to have predicted. The third was the Sibyl of Cumæ in Italy, and the fourth was a Hebrew Sibyl called Sabbe; others, however, called the last-mentioned Sibyl a Babylonian or Egyptian. According to Plutarch (*De Pyth. Orac.*, 9), the first Sibyl was she of Delphi. Varro enumerates ten Sibyls,—the Persian, Libyan, Delphic, Cimimerian, Erythræan, Samian, Cuman, Hellespontine, Phrygian, and Tiburtine. The Sibyl of wLom we hear most was the Sibyl of Cumæ, whom Æneas consulted before his descent to Hades. She was supposed to live 1000 years. It was she who so'd to Tarquin the Proud the Sibylline books. She first offered him nine; when he refused them, she burned three and offered him the remaining six at the same price; when he again refused them, she burned three more and offered him the remaining three still at the same price. Tarquin then bought them. They were entrusted to a college of fifteen men (*quindecimviri sacris faciundis*), who preserved them and consulted them on occasions of national danger. It would seem that they were consulted with a view to discover, not exact predictions of definite future events, but the religious observances necessary to avert extraordinary calamities and expiate prodigies. They were written in hexameter verse and in Greek; hence the college of curators was always assisted by two Greek interpreters. The books were kept in the temple of Jupiter on the Capitol and shared the destruction of the temple by fire in 83 B.C. After the restoration of the temple the senate sent ambassadors in 76 to Erythræ to collect the oracles afresh and they brought back about 1000 verses; others were collected in Ilium, Samos, Sicily, Italy, and Africa. In the year 12 Augustus sought out and burned a great many spurious oracles and subjected the Sibylline books to a critical revision; they were then placed by him in the temple of Apollo Patrous, where we hear of them still existing in 363. They seem to have been burned by Stilicho shortly after 400. According to the researches of Klausen (*Æneas und die Penates*,

<sup>1</sup> There is a gap in the text of Pausanias, and his meaning is not quite certain.