The new Siberia

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To cite this article: J. Y. Simpson M.A. (1900) The new Siberia, Scottish Geographical Magazine, 16:1, 17-29, DOI: [10.1080/00369220008733117](https://doi.org/10.1080/00369220008733117)

To link to this article: <http://dx.doi.org/10.1080/00369220008733117>

Published online: 27 Feb 2008.

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sufficiently instructed he was sent away, accompanied by four Jesuits. On this occasion a pink¹ and a caravel² were sent to Madagascar, commanded by Pedro de Almeyda Cabral, and Juan Cardoso de Pina, who sailed from Goa on the 17th of September 1616. . . . On the arrival of the two Portuguese ships in the port of S^ta Lucia,³ in Madagascar, the King and Queen of Matacassi received back their son with the strongest demonstrations of joy, and gave back the hostages left on taking him away. . . .”

In Part II. I propose to consider the opinions of later geographers and navigators respecting the so-called Terre des Papagaux towards the Antarctic regions. We may in conclusion quote the quaint sonnet of Sieur François Fabri, a contemporary of Cabral:—

“ Si tu veux voir quels peuples Antipodes
Habitent l’Inde, habitent le Peru,
Et tous les lieux sous ce pôle incognu,
Sans qu’à courir les mers tu t’incommodes :
Il n’est besoin qu’au gré des vents tu rodes
L’onde où Pilote est Colombe venu ;
Cy tout se voit escrit par le menu,
Leur teint, leurs moeurs, leurs habits, & leurs modes.
Cy sont depeints leurs riuages, leurs bois,
Fleuves & monts, leurs villes & leurs loix,
Leurs corcelets, leurs arcs & leurs sagettes ;
Et cy se voit leur aveugle fureur,
Auant qu’on ayt les tirez de l’erreur
Qui si loing temps tint leurs ames suiettes.”

THE NEW SIBERIA.

By J. Y. SIMPSON, M.A.

(*Read at Glasgow and Dundee, December 1899.*)

IN days when for the second time there has come from the East a call to universal peace, whatever be the nature of the response, men are naturally interested in that particular portion of the globe whence the summons has emanated. But even about that Asiatic portion of the corporate Russian Empire to which our attention is now turned, most of us have already formed some idea. Siberia is at once the reservoir of Russia and its cesspool. In the latter aspect it has been long known—the Siberia of Dr. Lansdell and Mr. Kennan—a country whose characteristic feature is dreary convict stations buried somewhere amidst snowy wastes, a land of gloom and desolation, to most who enter it the highway

¹ A sloop.

² Caravel or Carvel was a swift despatch-vessel with three lateen sails and square sail on foremast.

³ S^ta Lucia, or Mangafiafy, north of Fort Dauphin.

to the valley of the shadow of death. These notes are entitled "The New Siberia," because they are intended to suggest rather than to elaborate another and a truer point of view from which to regard that vast domain, to set before you some outline of the New Siberia which cannot at this moment be fully described, being only, so to speak, in the becoming, but which, none the less, will be the Siberia of the future.

Siberia is conveniently regarded as divisible into three broad east-and-west zones—the tundra farthest to the north, the taiga or belt of virgin forest, and the more open, largely agricultural, zone in the south. Between the last zone and the southern frontier still lie, especially in the west and in the centre, the steppe region and the Russian slopes of the Altai and Sayan mountains. Tundra is the name applied to the treeless belt of land that skirts the Arctic Ocean from Novaya Zemlya to Bering Strait, as far south, perhaps, as the 64th degree of latitude. There the subsoil is eternally frozen; in summer it is a swamp, where lichen and moss alone can maintain a hold of life. The average yearly temperature, *e.g.* at Beriozov on the Ob, at the south-western limit of the zone, is 5° C. below zero; that of winter—23° C. In that zone, likewise, is situated one of the poles of cold of our hemisphere, in the district of Verkhoyansk, where the January temperature is usually 49° C. below zero, and where a minimum of—68° C. has been registered. Any one starting from this point, therefore, finds himself in a peculiar position, because in whatever direction he goes the climate becomes milder. The climatic difficulty does not lie in the small number of degrees of heat registered in summer—we have hardly more—but in the relative shortness of the summer that succeeds the long winter, and in the great extremes that are reached within so brief a period. Hence, it is not easy to imagine how—unless in the event of such circumstances as have lately made Klondike appear to many to be a desirable place of residence—this tundra zone will ever be of service to the Russian Empire, or support a population other than that of the scant subarctic tribes to whom its wastes are home.

Gradually, almost imperceptibly, the tundra is overlapped by the belt of virgin forest. This taiga zone is the largest of the three; indeed it occupies almost half of Siberia. The climate is slightly less severe, although the yearly average is still below zero. The summer has lengthened, but agriculture is almost entirely impracticable unless with enormous trouble in certain well-favoured clearings. For the rest, it is an interminable maze of Siberian poplar, spruce, larch, cedar, fir, and pitch pine, with a dense undergrowth, a place of gloom below and silent conflict in mid-air. From the south, however, this forest belt is being slowly attacked with hatchets, and, as it were, pushed farther north, so that one day the land will support many more than the 700,000 Russians and natives who at present are resident within it.

If it is possible rudely to differentiate tundra and taiga by the absence or presence of tree forms, the criterion fails in the demarcation of the forest belt from the southern, open, agricultural zone. The latter, although it may rightly be termed open, is by no means bereft of wood; on the contrary, it is characterised by the presence of the silver

birch, along with other species that are found in the true forest belt. The agricultural zone is, as one would expect, that southern strip where the climate is sufficiently mild to allow the cultivation of cereals. The line marking the limit, where the mean temperature does not fall below 12° C. during the period of vegetation, may be said to pass at first through Tobolsk and Tomsk; thereafter it continues gradually to droop towards the south-east till it reaches the 53rd degree of latitude on the Pacific coast. Again, it must be observed that the important factor is the relatively long summer. Leroy-Beaulieu, in a recent communication upon Siberia, illustrates this point by an apparent paradox:—"At Nertchinsk, in Trans-Baikalia, the winter is 4° colder than at Beriozov on the Obi, and although cereals ripen in the neighbourhood of the former town, the latter is surrounded merely by desolate tundra. The reason of this is that from May to September the mean temperature is 13.5° at Nertchinsk, and only 9° at Beriozov."

It is then in this southern zone that a reformation is being slowly wrought, due in the first instance to the passage through it of the Trans-Siberian railway. Into the history of this great undertaking there is no occasion to enter at this time. Suffice it to say that the idea perhaps first occurred to an English mind, and that no other Russian name is more closely connected with the initial steps than that of Count Muraviev, the annexer of Amuria. Winding across the illimitable plains of Orenburg, traversing the broad Urals, spanning wide rivers like the Irtysh, Ob, and Yenisei, the railway creeps round the southern end of Lake Baikal, and mounts the plateau of far Trans-Baikalia. Thereafter, leaving behind it the Yablonovoi mountains, the line descends into the valley of the Amur, exchanges it presently for that of the Ussuri, and ends at last in Vladivostok. Such is, in brief, the original scheme to which imperial sanction was given on March 17th (O.S.), 1891.

To understand in part the far-reaching significance of this immense project, it may be well to glance at the conditions of travel which are thus being superseded along that particular track. It is exactly twenty years since Dr. Lansdell journeyed through Siberia, and by his route—down the Volga and up the Kama to Perm, thence by train to Ekaterinburg, whence to Tiumen by horse, down the Irtysh and up the Ob to Tomsk, and thence along the *trakt* to Sryetensk, and so by water mainly to Vladivostok—it was possible to traverse the empire in two months. When the Trans-Manchurian trunk is finished, ten or eleven days alone will separate St. Petersburg from the Pacific terminus. Already, in 1896, the tarantass limit had been forced eastward to Krasnoyarsk; before this year has closed, or at the latest by the spring of 1900, there will be steam communication, *i.e.* by water and by land, right across the continent.¹

Still there will be many who will not surrender the old summer

¹ The latest advices from St. Petersburg state that railway traffic was to be opened on December 18th, 1899, between Chita and Sryetensk, and that, consequently, on the commencement of navigation on the Shilka and Amur, the Russian capital will be in direct steam communication with Vladivostok.

tarantass or winter sleigh without some feelings of regret. True, if an ordinary traveller, you could only make 100 to 120 miles, or even less, in the twenty-four hours; but then it was a glorious drive, now down a long avenue of brooding pine and stately larch that screened one from the strenuous rays of the sun, unless during the brief noontide hour, or that stood at other times spellbound beneath the winter frost; now through more open country, where land was laid under cultivation, and wattled fences were only used to enclose the common pasturage of a village; or again, as in far Trans-Baikalia, across bleak, wind-swept steppes, a prolongation of Mongolia. True, you had only perhaps three or four shaggy, impetuous ponies and a *yamstchik*, with whom you felt for a moment that you would rather not be associated. But then what a play was enacted before you! The mettlesome creatures were off ere the driver had well taken his seat, and at once there commenced the strange monologue that often only ceased when you had pulled up at your destination. Every incident in the team's behaviour was reflected in the continuous flow of the *yamstchik's* language, now gentle and rippling when his charges were drawing well, now torrential when one of them stumbled, shied, or showed signs of flagging—a quaint blend of blessing and cursing that rose and fell to the accompaniment of very expressive demonstrations of the flexibility of the driver's arms and whip. And the *yamstchiks* themselves, whose lives are spent in a continual going and coming between the station on either side of the particular posthouse to which they are attached—what drollery, bad temper, and deceit they could display! How, after a run of two or three miles out of the village, they would pause to give a breathing-space to their troika, dismount and closely scrutinise their harness to see what adjustments were required, and then amble round to the carriage to ask permission to smoke. This granted, they would fill a diminutive bowl with some mixture scraped out of an old pouch, would then retire behind the carriage, and, after a few whiffs, remount to their seat. How, on having pulled up at the door of a posthouse, they would come down and look you in the face, and tell you in one word—*Priyekhali*—the fact of which above all things you were most certain at the moment, viz., that you had arrived; how, sadder to relate, owing to some ill-timed conviviality they felt sleep to be preferable to duty, so that, as once happened to the writer in the middle of the night, one had perforce to mount and drive the drunken *yamstchik*. True, you may have covered long stretches alone or with a single companion; but then what strange processions trailed their slow lengths past your speedier equipage—chains of a hundred telyegas laden with tea and other Oriental merchandise, convoys of gold in charge of ready soldiers, waggon-loads of emigrants pushing towards an illusive east, gangs of remorseless convicts filling the air with alternate notes of gladness and despair. Nevertheless, through it all, there was a certain monotony, and, especially if one travelled by night as well as by day, a certain weariness about the older journey that find no place upon the Trans-Siberian railway.

When one puts to oneself the question, Out of what exigency did the idea of a Trans-Siberian railway arise? more than one consideration

demands acknowledgment. Is it right to say that the scheme was probably but the development of sundry other lesser projects which had as object the providing of suitable means of communication in and with the eastern territories acquired in 1854, so that they might be the more easily exploited, and, in addition, colonised? Or was it that Russia during the Crimean war learned the disadvantage of carrying on a struggle in the absence of means of rapid connection with the basis of operations? The answer must include both of these considerations; nay more, the Trans-Siberian railway is first political, then economical.

As is now well known, there were three possible points of departure for the Trans-Siberian—Tiumen in the north, Zlatoust on the 55th degree of latitude, and Orenburg 3° farther to the south. Now the remarkable thing is that, fortunately, as it turned out, Zlatoust, the central point, was chosen; for Tiumen, in addition to being situated upon the Asiatic side of the Urals in the Siberian plain, was already joined by rail with Perm in European Russia, and through these towns lay the time-honoured line of entry to Siberia. Nor is it any counter-point to urge that it would have been necessary in that case to connect Perm with Nijni-Novgorod by six or seven hundred miles of rail, for such enterprise would have been justified, as even now the opening stretches of the Trans-Siberian run to the south of the colonised area. It would seem, however, that at the time when the decision was made the central point of departure commended itself because the line from it presented fewest difficulties in construction, and would be the shortest to any point in Central Siberia, as, *e.g.* Irkutsk, rather than because of any special economical advantages that it possessed; it is only comparatively lately that these last have been recognised.

The first section of the Trans-Siberian, viz., the Western Siberian railway, from Tchelyabinsk by Omsk to the Ob, 885 miles, was opened in 1895. Its construction offered no outstanding difficulty, unless in the building of the bridges over the Irtysh and the Ob; in the latter instance the length of the iron lattice girder bridge exceeds 2500 feet. The same general remark applies to the Central Siberian railway—from the Ob to Irkutsk, 1168 miles—which, with the little 44-mile branch to Listvinitchnaya on the shores of Lake Baikal, was opened towards the close of the summer of 1898. On this stretch, however, is found the great bridge over the Yenisei, which was not to be completed till this year. In the case of the other smaller rivers, as *e.g.* the Tchulim, upon which Atchinsk stands, any difficulty connected with them lies not so much in the actual bridging as in the approach to the river, owing to the marshy nature of the ground and the frequency of inundations. Such swampy areas forming insecure foundations, and so demanding great expenditure of labour, are perhaps the most general serious obstacle with which the engineers have had to cope, confronting them even in the great western plain. The river Tchulim, with the long high embankment that leads up to its left bank, with nothing to correspond upon the other, because the right bank is just so much higher than the left, affords an illustration of the gradual displacement of rivers flowing towards the north that takes place in an easterly direction, owing to the rotation of the earth.

The next section of the railway was to have gone from Irkutsk round the southern end of Lake Baikal to a station Misovskaya, a distance of nearly 200 miles. We have seen that already in 1898 a branch line had been laid from the capital to the shores of the lake, across which ply steamers with Scotch-built engines, thus following the old post route. It was always known that this short section would prove to be the most difficult, and Russian estimates had put its completion last. The initial surveys brought out the necessity amongst other feats of boring a tunnel over 12,500 feet in length on a continuous incline, so that it could only be attacked from one end, of erecting embankments, sometimes 112 feet in height, with proportionately high retaining-walls laid in cement, and of making endless cuttings in granite, gneiss, and sandstone. There is no doubt that this would have been the most romantic stretch of the railway, for the scenery around and in the neighbourhood of the lake is wonderfully picturesque, offering more variety in a given interval than is experienced on any other stretch over the 4000 miles. Since these preliminary investigations the section has been resurveyed more than once, and the latest advices point to an issue that had not been unforeseen, viz., its abandonment owing to the altogether disproportionate cost which its construction would entail. This, then, is the first great modification upon the original plan. The trains will be transported bodily upon ice-breaking ferryboats of 4000 tons, which are at present being put together upon the western shore of the lake. The distance to the railway port upon the other side is some forty miles, and it is expected that the passage will occupy ten hours in winter and three in summer. In addition to the usual periodical drawbacks to navigation upon Lake Baikal—the violent tempests and thick fogs—one cannot forget the difficulty that these vessels will surely have in merely getting under weigh during those four or five months when hitherto sledges and sleighs have been in requisition to cross the ice. On the other hand, should the new scheme prove entirely successful, it will represent a saving to the Government of a sum slightly under £2,000,000 sterling.

The next section from the eastern shore of Lake Baikal to Sryetensk, 673 miles, is that upon which labour and attention has been most recently concentrated. When it has all been opened, which, as already mentioned, was to be the case in this December, the steamers that run down the Shilka from that town into the Amur, and so to Khabarovsk, will form the connecting link between these two widely separated points upon the Trans-Siberian—a distance of over 1300 miles. And this brings us to the second great modification of the original plan. The fifth section, viz., that which, following the courses of the Shilka and the Amur, was to have joined the towns of Sryetensk and Khabarovsk by way of Blagovyeshchensk has also been abandoned. This has been known for some time, but the more one looks into the matter and observes how practically no survey-work was done over this section, the more one feels convinced that the Russian Government never seriously meant to build it at all, but was quietly waiting till that favourable moment should arrive, as arrive it did in December 1896,

when by the terms of the Cassini Treaty with China, it acquired the right of adding a Trans-Manchurian branch to the Trans-Siberian railway. The political and economical advantages of this concession have been flaunted in our eyes by perfervid patriots for the last two years. To begin with, there was even no actual post-road beyond Sryetensk; the river steamers in summer replaced by sleighs following the same frozen track in winter were the only means of communication with Blagovyeshtchensk or Khabarovsk. To build a railway would have necessitated the cutting of a roadway through the taiga that clothes the banks of the Amur. According to the plans of 1897 the Trans-Manchurian branch will be 1280 miles in length, 946 of which lie in Chinese territory, and it will mean a reduction of at least 350 miles—some calculate 700—on the original scheme. It joins the last section of the Trans-Siberian railway—the one covering the 486 miles between Khabarovsk and Vladivostok, opened already in 1897—at the station Nikolsk, sixty-eight miles north of the Pacific stronghold. This section will in future be known as the Ussuri railway, and Sryetensk will be the terminus of the Trans-Siberian railway proper. Previous to 1896 surveys had been quietly carried on by Russian officers and engineers in Manchuria, but even with the aid of these rather impetuous preparations it is difficult to see how the whole line of 4072 miles can be open before 1902.

The point of departure of the Trans-Manchurian, or Chinese Eastern, from the Trans-Siberian railway is Kidalova, a station lying fifty-three miles to the east of Tchita. Hence the line runs 600 miles directly south-east to Harbin. At this new town, some 500 miles west of Vladivostok, it crosses the Sungari. Thereafter the main line turns south to Port Arthur, 650 miles distant, while a south-easterly branch goes off to Vladivostok *via* Nikolsk, as already stated. Other branches from the main southern line will connect Kirin, Newchwang, and Peking. Tchita, the capital of the oblast of Trans-Baikalia, is a quiet merchants' town, with a population of 10,000, prettily situated on the left bank of the river of that name, not far from where it falls into the Ingoda. The river Tchita is not navigable; but in earlier years certain individuals used to find pleasure and profit in making great rafts of wood, and gliding thereon down both the Ingoda and Shilka to Sryetensk, where, after disposing of the logs, they returned home by land. When the river was full, they were thus taken through beautiful scenery at the rate of six miles an hour, and could either live on whatever food they carried with them, or upon the wild duck and other fowl that frequent the banks. From the middle of the eighteenth century until 1851 Tchita was little more than a Cossack outpost, where there was always a good halting-point and settled market for merchant convoys on their way from Verkhni-Udinsk to Nertchinsk. In that year the boundaries of the territory were laid down, and Tchita was chosen as the principal town owing to its central position. Hence not only do the military governor and bishop of the oblast reside there, but the July review of all the troops in Trans-Baikalia, to which the inspecting general comes from Khabarovsk, is almost providential in its accessory function of wakening

up the town once every year. Tchita contains all those institutions from a museum down to a prison, without which no Siberian town seems to be completely equipped, not to speak of a Chinese quarter, whose proximity to the Celestial Empire does not better the quality or cheapen the price of tea or silk. Trade to the extent of two million rubles is principally done in manufactured goods, dried fruits, and agricultural implements from Russia, wine, cigars, sugar, woollen and linen articles from Amuria, and tea from Kiakhta. The buildings are mostly of wood; the dusty roads boast of no paving. A line of posts sometimes marks off the portion allotted to pedestrians; not more than twenty street candles illumine the whole town. To winter there is not an enviable experience. Snow is a rarity, being seen once in ten years or so; but the severity of the frost is such that when one goes out of the mid-winter blazing sun into the shade of a wall or a house, the change in the temperature is almost unbearable. Otherwise the dryness of the atmosphere prevents one from feeling the full effect of the sharp cold.

Before we pass from the subject of the Trans-Siberian railway, it may be well to consider it as a whole. We have seen that the two important modifications leave its length to be the only serious difficulty connected with it. Again, to the west of Irkutsk, the line climbs no higher than 1900 feet above the sea; the summit is reached at 3400 feet in the Yablonovoi mountains. Some heavy cutting has had to be done in the narrow-winding valleys of the Ingoda and Shilka, but there is not a single tunnel on the railway from one end to the other. On the whole one can say that it has not been an intrinsically difficult though a prodigious undertaking. But there are features that command our admiration. We have spoken about such and such sections being completed in so many years, but it is necessary to remember that these years represent actually only six months of labour. From October to April the soil is frozen so as to be unworkable; in the neighbourhood of the summit the ground thaws even in summer only to a depth of 2 feet, so that the perpetually frozen subsoil is reached only too soon. To do what has been done therefore required at times the co-operation of as many as 150,000 workmen. Certainly the greatest numbers came not from the native population, nor yet from penal settlements in any considerable proportion, but from European Russia went hundreds of peasants, content to labour during the summer, and either stay on or return, according as their duties to family and community were urgent or not.

The Trans-Siberian railway has not failed to arouse much criticism. There are those who say that the Russian engineers, little accustomed to mountains, and acting almost as if they were afraid of them, have laid the line sometimes through swamps, although elevations at no great distance would have afforded an excellent course upon their slopes; and to this error is attributed the frequent washing away of the line at so many points in Trans-Baikalia. Again, if any reasonable rate of speed is desired, the rails will all have to be relaid, those in use being lighter than the already too light ones employed in European Russia. Another

step towards perfection will have been attained when the larger wooden bridges are reconstructed in iron. The estimated cost, £34,700,000, it is needless to remark, will be greatly surpassed, even when the economies resulting from modifications are taken into account; in some measure this excess is the outcome of waste and carelessness. Still, the actual execution of the work is beyond praise, and the Trans-Siberian railway will remain the great monument to Russia's industry in the nineteenth century, reflecting in some measure the national characteristics of simplicity and greatness.

But the New Siberia is also a country open to, and exercising a certain fascination over the minds of, thousands of emigrants. The point to be observed is not that emigration eastward is first noticeable in the last decade, or even the last half-century—for Siberia received her earliest immigrants in the sixteenth century; what rather is worthy of remark is the essential difference from a general point of view between the former and the latter movements. The one was compulsory—the emigrant was first an exile, then a colonist; the other is spontaneous—the emigrant is first a colonist, then, if you will, a voluntary exile. Every one is aware how at one period in our history the Pilgrim Fathers left these shores and founded a colony across the sea, from which has sprung much of what is best in the America of our time; how at another, representatives of a class nearer the other end of the social scale were sent in the opposite direction to occupy the lands around a certain Botany Bay; how again yet others went to India to carry on and, when necessary, protect an expanding trade, and in a few years gave us an empire. Now there have been exactly the same movements from Russia, with this difference, that they all tended in the same direction. The rich merchant family of the Stroganovs, in whose pay was Yermak, the so-called conqueror of Siberia, received from Ivan the Terrible just such a charter of privileges as was granted to the British East India Company. It would make you smile were one to relate the trivialities that sent thousands of dissenters across the Siberian border in the seventeenth century, while, if we include the relatives who have accompanied the convict bands, not far short of a million banned souls must have entered Siberia since 1820. Every country has its *Via Dolorosa*, and the old post-road leading from Perm to Tiumen well merits that appellation. But what is the result to-day? The original Russian population of Siberia is mainly drawn from three sources—the Cossacks who first conquered the country, the exiles, political and criminal, and the great band of religious dissenters. Now, if we consider these three classes, bearing in mind with regard to the second that the unfit criminal exiles are weeded out by natural selection and do not survive, we see that, as a whole, they consist of men and women who were in some way, intellectually or physically, more active or more earnest than their fellow-countrymen who remained in European Russia. The result is that to-day the average Siberian is a more vigorous and intelligent man than the average Russian. He picks up a thing more quickly; his life is richer, brighter. There is, on the whole, a greater approximation to a normal state of existence in Siberia than in Russia; and the

political exiles are not slow to see this, and take advantage of it by remaining on when their term is finished.

The new voluntary emigration movement really runs parallel with the progress of the Trans-Siberian railway scheme, for prior to its commencement certain restrictions had been laid upon intending colonists. But with the new era the Government encouraged intending settlers in many ways. They were taken out by rail at rates corresponding to less than one shilling to the hundred miles. On their arrival in Siberia, they received in the western Governments grants of forty acres of land each, and were exempted from taxes for three years, while in many of the hardest cases temporary financial relief was granted to an extent not exceeding £10. It is now matter of history how in the spring of the coronation year 1896, when the western section of the railway was first opened, the number of emigrants, which for some years past had been slowly rising, suddenly reached a point that exceeded the transporting capabilities of the young Trans-Siberian railway. There was neither the necessary rolling-stock nor sufficient officials to conduct the emigrants to the grants that had been allotted to them. As far east as Atchinsk we saw them by the side of the line or round the larger stations in hundreds, waiting—one man said he had reached the point a month ago—pining, dying from various epidemics, before the time came when the bewildered conductors could lead them to their new homes. The matter was thoroughly investigated, and a like accident will not recur. But in spite of the numbers that have returned home to European Russia, having spent their all upon a fruitless errand, the fascination of the new country grows yearly stronger, and it is probably little exaggeration to say that, since Nicholas II. formally ascended the throne, an annual average of 200,000 people has gone out to claim a lot and portion in this new Land of Promise. An interesting comparison could be worked out between Siberia and Canada, which would show, amongst other things, that in the matter of actual colonisation, under conditions much less favourable, the Eastern Dominion has made relatively the greater progress, the difference in density of population between these two northern territories being merely fractional. Further, unlike the circumstances under which various countries have been and are being colonised by Anglo-Saxons, there is nothing in Siberia corresponding to colour prejudice. With its several indigenous Mongol peoples the western Slav has a certain natural affinity, while on the question of religion, where alone there could be any possibility of serious disagreement, the Russian as an individual is essentially tolerant. At the same time, like Australia and North America, Siberia is confronted with the problem of the Chinese overflow. Owing to the relative geographical positions of Siberia and China it is probable that this problem will reach a more acute stage in Northern Asia than elsewhere; at present the Russians regard it with sublime indifference. The Chinese, who are found only in the towns, do not seem to enter into the official immigration reckonings. Hence it is possible to say that, with the exception of a few French, Siberia is being colonised by subjects of the Tsar.

Reference has already been made to the Raskolniks, or Dissenters, as forming part of the original Russian population of Siberia. To-day they number at least one hundred and twenty thousand, and are most numerous in the provinces of Amur and Trans-Baikalia. Temperate and industrious, they are generally admitted to be the best native Russian element. In these two qualities, as in much else, they contrast very forcibly with the orthodox peasants, who are characterised by idleness, a certain obstinacy, and a lack of energy and perseverance.

Whatever differences exist between Asiatic and European Russia are merely differences of degree. In the sphere of the natural, the tendency is towards exaggeration. Thus, Siberia is the larger country, her plains have a wider sweep, her rivers follow a longer course, her forests cover a wider area, her winters are more severe and more extended. In the realm of the artificial the tendency is just the other way. The official hand lies lighter; class distinctions have reached the vanishing point where there is practically only one large class, and where there never was serfdom; orthodox ecclesiastical injunction has not the same binding force where heterodoxy peacefully thrives. Now, as in Russia, the people are essentially agricultural, only more so. As in Russia, the peasants live almost entirely in villages or hamlets, which are more simple, if possible, than those on the western side of the Urals. The soil in the southern zone of Siberia is often very rich; much of the provinces of Tobolsk and Tomsk is overlaid with the famous *tchernoziom* (black earth). The virgin tracts are remarkably prolific, and thirty to forty crops are often gathered in without any prolonged interval of repose. Further, there is a great abundance of live stock in peasant hands, especially of horses; cattle are not often used as beasts of burden or for purposes of draught, while breeding rarely ranks as an occupation. The transport of the interminable caravans of tea and other merchandise, travellers and convicts, always to be seen upon the great post *trakt*, has hitherto proved an assured source of revenue to the villagers along that route. And so there has never been a struggle for existence in the Siberian peasant's life; means of subsistence lie at his hand; beggary is unknown. In spite of this he is characterised by idleness, a certain obstinacy, and a lack of perseverance and energy, and he possesses these qualities, these failings, in a more marked degree than his western compatriots. With regard to these last two traits of national character it may be interesting to discuss whether they have existed from all time, whether they are vestiges of the ancient Tartar domination, or whether they are the accumulated hereditary effects of many long, dreary winters; it would be more profitable to endeavour to ascertain through what means the Raskolniks have in great part succeeded in overcoming these defects.

But in the New Siberia there are important modifications in the old state of affairs as depicted above. With the development of colonisation it is no longer possible for the Siberian peasant simply to remove to some other locality when the land upon which he has been working becomes impoverished. Further, with the aid of manure (hitherto unused) and modern implements, his cultivation of the soil will tend to be more

serious and systematic, one result of which—already felt in the western-most districts—will be a greater constancy in the annual amount of grain produced, and consequently less variation in the price. And if the railway does on the one hand deprive him of much of his transport revenue, on the other, by providing means of export for his surplus grain, it rouses him in earnest to agricultural pursuits. Cattle-breeding also, hitherto confined to the Buryats, in Trans-Baikalia, and to the Kirghiz in the south-western steppes, begins to appeal to the Siberian peasant as an end in itself, and traffic in dairy produce naturally associates itself therewith. Thus everywhere the old sloth that hindered a man from doing more than was absolutely necessary is being thrown off; competition induces struggle; the New Siberia is a realm of life.

We have seen that the Siberian soil is often rich, but the subsoil is richer still. Amongst the gold-producing centres of the world the Russian empire takes the fourth place; two-thirds of its contribution come from Siberia. Hitherto, owing to unsatisfactory means of communication, it has not been found possible to convey to the often far-removed gold districts the machinery necessary for such an operation as quartz-crushing. In consequence Siberian "gold-mining" has been till quite recently restricted to the exploitation of placers, and even the washing of these auriferous sands has been conducted with little thoroughness. By one of the conditions under which the land is leased to speculators of any nationality the State constitutes itself sole buyer of all the gold, at the same time imposing a double tax on the output and on the amount of land leased. This somewhat ill-conceived legislation lends itself to numerous abuses, which are however in process of being remedied. Accordingly, with more satisfactory official regulation and the introduction of modern plant, gold-mining promises to be a leading feature of the New Siberia. And when to this is added the imminent working of numerous coal seams, more or less recently discovered, not to speak of the great iron and copper beds that are scattered up and down this immense territory, we see the extraordinary richness of this brightest jewel in the Russian crown.

One final word about the towns. At the beginning of the present decade it would have been possible to count off those with a population exceeding ten thousand inhabitants upon the fingers of one hand; to-day there are at least a dozen such centres of population. With three or four exceptions they lie along the line of the post *trakt*, that is, of the railway. With one or two exceptions they are still administrative as well as commercial centres. In the eastern towns the administrative element is the more prominent; in the western the commercial element predominates. From these towns are distributed the manufactured articles that are sent out from European Russia; there also are collected the surplus produce of the circumjacent districts previous to their despatch westwards. In configuration they may all be said to adhere to the composite type of the ordinary provincial Russian towns, with streets parallel and at right-angles, of small wooden houses enclosing a nucleus, greater or smaller, of buildings in stone; these are either official, educa-

tional, or commercial establishments. Any street paving is done in wood; electric light and the telephone are not unknown. Already there is a certain differentiation in the character of the towns. Tomsk, by reason of its university with faculties of medicine and law, is the intellectual, as Irkutsk is the commercial, and Vladivostok the naval, capital. As, naturally, it is in the towns that we should expect to find the earliest hints of what the future of the country will be, these few sentences must suffice to indicate the civic outlook of the New Siberia. In every way her material prosperity seems assured. But, on the contrary, nearly everything remains to be done to develop in a corresponding manner the enormous field of Siberian peasant intellect. Only when this is accomplished will there be ultimate satisfaction in the New Siberia.

OBITUARY: 1899.

Sir J. WILLIAM DAWSON, C.M.G., LL.D., F.R.S.—The subject of this notice was born at Pictou, Nova Scotia, in 1820, at which place he received his preliminary education. He subsequently studied in the University of Edinburgh, and returning home devoted himself chiefly to the study of Palæontology and Geology. From 1843 almost to the end of his long life not a year passed without one, usually several, contributions from his pen to scientific journals and periodicals. Besides these papers, some of which were elaborate enough, he wrote also a number of monographs, of which the most important is one dealing with the Devonian and Carboniferous floras of Eastern North America. In all these works he gave evidence of keen observation and clear perception of the problems which called for elucidation. We are indebted to the same busy pen for numerous independent publications—not a few of which, being popularly treated, have been widely read and much appreciated. The work which first brought the author into prominence was his *Acadian Geology* (1855). This admirable book embodied the results of his researches in Nova Scotia and New Brunswick, and is likely to survive as one of the classics of geology. But probably Sir William was best known as the discoverer of *Eozoön Canadense*—the oldest relic of animal life. The organic origin of this “fossil” having been called in question, a prolonged discussion ensued, leading to the publication of *The Dawn of Life*—an interesting work in which Dawson reviews the evidence and replies to his critics. The author was conservative in his scientific views. He was opposed, for example, to the Darwinian theory of the origin of species, which he endeavoured to controvert in his *Story of the Earth and Man*. He also stoutly maintained the marine origin of the “drift deposits” of North America, believing that the boulder-clays and erratics of Canada and the Northern States of the Union were the droppings of icebergs—a view to which he was unable to convert any of his American confreres. But in this, as in many other departments of geological inquiry, he nevertheless made solid contribu-