

total group of children that is intrusted to the care of the teacher. He is held by the teacher, and then passed on to another again as a fraction, and not as an integer. Does he not lose much, as well as gain, by this system? As regards his health, he loses that defence which the sympathy of the community always extends to that individual who is suffering conspicuously. Taken generally, all children in school are suffering from discomfort. Average this discomfort among ten thousand, and it may not be very great for each one; but a class of fifty children is not made up of fifty averages.

THE AMERICAN ASSOCIATION AS A MISSIONARY BODY.

Two years ago we published some statistics concerning the membership of the American association which were somewhat curious. The figures then given dealt simply with the geographical distribution of the members; and they showed, among other things, that one-third of the association came from the states of New York and Massachusetts. If the north-eastern states, that is, New England and the Atlantic states to the Virginia line, had been counted, it would have been found that these included fully three-fifths of the association.

It could also be shown that during the last ten years, when only four of the ten meetings have been held in the north-eastern states, the average attendance of members from this section has been 53 per cent of the whole attendance, increased to 76 per cent when the meetings have been held within its own territory. It has even been larger than the territorial representation in two instances, as at the St. Louis meeting of 1878, when it was larger than the representation of all the states west of the Mississippi; and at the Montreal meeting of 1882, when it was five times as large as the entire Canadian membership present. At the other extra-territorial meetings, where its proportion of the total attendance has varied from 24 per cent to 37 per cent, it has easily held the second place, though falling below the local representation of large areas. Indeed, the representation of no other section, excepting of the northern states lying east of the Mississippi and west of the Atlantic states, ever has more than a passing importance, viz., when the meeting is held in that section. Thus Canada's representation has never been more than 3 per cent of the whole in any meetings of the last ten years, excepting in 1882, when it was held in Montreal and the percentage rose to 14 per cent; the next year however it fell

to 2 per cent, and, omitting 1882, the average has been less than 2 per cent. In this same period the states west of the Mississippi have averaged a little more than 4 per cent, and have never reached 6 per cent, excepting when the meeting was held at St. Louis in 1878, when it rose to 31 per cent, and at Minneapolis in 1883, when it was 15 per cent. The southern states have done better than this, for at the Nashville meeting in 1877 their average was 57 per cent of the whole, and though at no other time (even at St. Louis) have they exceeded 12 per cent, their general average, apart from the Nashville meeting, has been over 6 per cent.

It is, however, a matter of practical importance, in deciding where a meeting shall be held, to know how large a general attendance of members to expect, and here the statistics show some further significant facts. The general proportion of members in attendance to total membership during the past ten years has been $30\frac{1}{2}$ per cent, but the proportion has varied enormously, as may be seen by the following serial figures, from 1876 down: Buffalo 25 per cent; Nashville 17 per cent; St. Louis 14 per cent; Saratoga 25 per cent; Boston 63 per cent; Cincinnati 27 per cent; Montreal 48; Minneapolis 20 per cent; Philadelphia 49 per cent; Ann Arbor 17 per cent. While it should not be forgotten that it is one part of the association's work to look upon the meetings as in some sort a missionary enterprise, neither should it be overlooked, when it is asked to hold an undue proportion of its meetings away from the centres where it gains its main financial and moral support, that such assemblies are held *in partibus infidelium*.

It might be sagacious to institute an inquiry as to the length of time for which new members, gathered in from the district immediately surrounding a place of meeting, are held. That membership changes largely from year to year is a well known fact; that it is largely recruited from the places where the meetings are held is sufficiently obvious to any constant attendant. But what shall we say when we discover that Buffalo, which a month hence can point to itself with pride as the only city which has harbored the association for a third time; that Buffalo, situated in the region which these statistics have shown is most favorable for science, where two or three local societies for the cultivation of the natural sciences have sprung up, where scientific periodicals have found a home and a patronage; that Buffalo, renowned for its hospitality to science, literature, and art, where ten short years ago the association was enlarged by nearly one hundred and fifty members, twenty-five of them its own citizens, —

has at present only seven members on the association's rolls, three of them the sole survivors of the twenty-five. Was it for missionary service that Buffalo called the association to its open doors? Does Buffalo look upon itself as *in partibus infidelium*?

THE TRANS-CASPIAN RAILWAY.

THE Transcaspian railway was opened for traffic on the 14th of July as far as Merv. The operations must already be far advanced on the Merv-Bokhara-Samarcand branches, for the names of railway stations, the distances, and other details over the whole length of the railway, from the Caspian to the Turkestan frontier, are already known. The following are fresh particulars of this important central Asian strategical railway:

There are altogether 63 stations from Michailovsk, on the bay of that name on the Caspian, right through the deserts and oases of the Transcaspian, across the Amu Darya and Bokhara to Samarcand. These do not include the new branch of 25 versts, made from Michailovsk along the Caspian coast to Ousun Ada, in order to have deep water for the connecting sea service, and to avoid the reshipment formerly necessary between Krasnovodsk and Michailovsk. The distances between these stations vary from 15 to 33 versts, being in most cases from 22 to 25 versts.

The whole distance of the line when completed as far as Samarcand will be 1,335 versts. The distances in Central Asia have become so exaggerated in most minds that few persons would imagine that they might travel by this new railway right through the Transcaspian Steppes, over the Oxus, and from one side of Bokhara to the other, coming out at Samarcand, in something like a day and a half, or less.

The first, or western, portion of the railway runs through a desert, crossing now and then an oasis, then traverses the cultivated territory of Bokhara, and ends at Samarcand in Russian Turkestan. The desert stretches along the line 148 versts between the sea-coast and Kazandjik, and 69 versts from the latter station to Kizil Arvat. The Akhal Tekee oasis extends as far as Gheours, 237 versts. The furthest point south, Doujak, is distant from the sea 581 versts, from Askabad 159 versts, Merv 167 versts, and Samarcand 754 versts. The railway traverses 300 versts of Bokharan territory. Were the line made from Merv over Burdalisk and Korti, instead of Charjui, 100 versts would be saved, and the distance between Michailovsk and Samarcand would be only 1,200 versts, or 800 miles, instead of 890 miles; but the Bokharan government, for some reason

or other, did not consider that this shorter route would so well serve the interests of their country.

The principal stations are those of Askabad and Samarcand. Besides post and telegraph offices, lodging houses have been already partly built at several stations for travellers, though nothing in the way of luxury will be provided, as may be imagined. According to the time-table, the trains will run 20 versts an hour. In the event of war, the number of trains departing may be increased to 12 per day.

The railway at present is only a single line. Although many of the stations are situated in waterless deserts, they are all furnished with water in one way or another. At Michailovsk there is Nöbel's machinery for converting the sea water into fresh water, and at several stations large cisterns are to be regularly supplied, either through pipe lines or by water trains. Artesian wells have also been dug, and good water has been found between Michailovsk and Molla Kary, and at other points. Not far from Bala Isshem, the railway also has its own petroleum sources, connected by a branch line.

THE RECENT ERUPTION IN NEW ZEALAND.

A STEAMER which recently arrived at San Francisco from Australia brings further details of the great volcanic disturbances in New Zealand. Heavy earthquakes were still felt in the Tarawera and Sulphur Springs districts, and severe shocks continued in the Rotoli district. A relief party that was sent out reported that Lake Tarawera had fallen considerably. The oil bath at Whakarewarewa was throwing up stones and mud to the height of twenty feet, and the great boiling lagoon of Papatangi would suddenly rise as much as two feet, and then as quickly fall. A similar phenomenon was observed at the Kuirrau caldron, which would rise two feet in half an hour, and then as quickly return to its normal level. Mr. Dinsey, the telegraph officer in charge of the Rotonea station, near where the eruptions and earthquakes were heaviest, reported on June 25 that volcano No. 1 was dead, and that Nos. 2 and 3 were steaming. No. 4 was still throwing up mud. Lake Rotomahana was comparatively quiet, with only one geyser in the centre playing. The Pink Terrace geysers were still blowing up clouds of steam, but were less active than they had been. The immense crevasse created between Tarawera and White Terrace continued to steam, and the cone on top of Tarawera Mountain was throwing out volumes of black smoke and steam. The New Zealand *Herald* says: "On Galatea Plains the